UiT The Arctic University of Norway

Faculty of Health Sciences

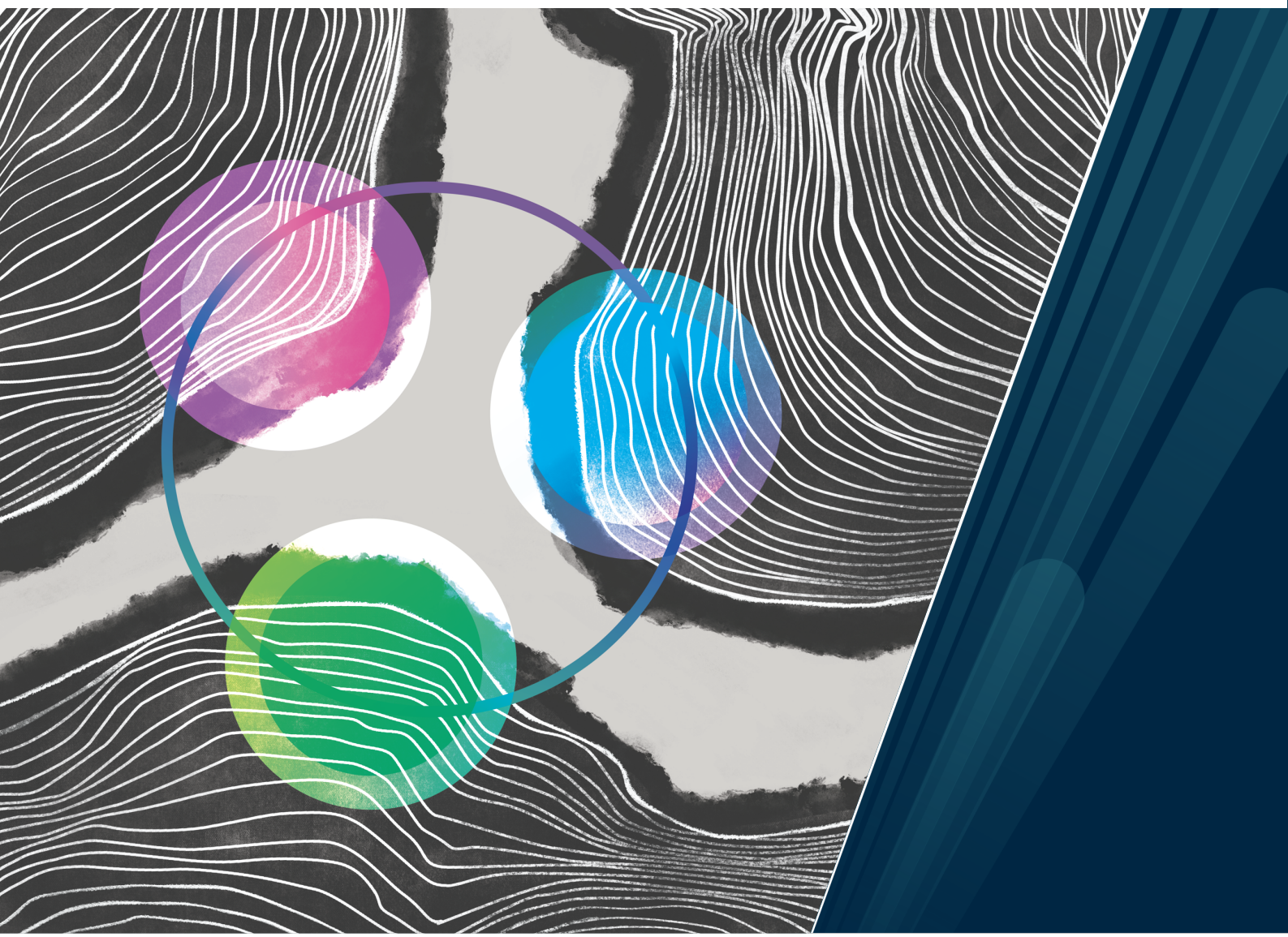
Department of Health and Care Sciences

Towards interprofessional patient care: Health profession students exploring interprofessional collaboration in group meetings in joint clinical placement

A qualitative study

Anita Carin Gudmundsen

A dissertation for the degree of Philosophia Doctor - November 2022



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Abstract in English

This study explores and develops knowledge of what health profession students do in interprofessional group meetings during two weeks of voluntary practice when independently developing interprofessional health care for real patients. The knowledge generated provides insight into how the students learn interprofessional collaboration in their meetings, which is of interest for educational researchers and for managers and staff in healthcare services and health professional education. The participants were studying medicine, nursing, occupational therapy and physiotherapy, and were organized into interprofessional groups for their practice period in primary care in either a geriatric rehabilitation ward, a short-term nursing ward or an intermediate emergency ward. A qualitative research design was used to generate the data, inspired by ethnographic methods. The data consist of audio recordings from the students' group meetings and from group discussions with the researcher, in addition to field notes from observations of the same meetings and from conversations and other interaction. A thematic analysis of the data was conducted based on a practice theory worldview and Wenger's sociocultural theory of learning. The analysis shows that the students developed close mutual engagement, a multi-professional knowledge base and multidimensional descriptions in patient records, based on the interprofessional composition of the groups. The way the students' interaction developed in the groups was interpreted as a result of their decision to initiate a partnership where they explored how they could work interprofessionally to improve healthcare for patients. The conclusion is therefore that students are creative meaning-seeking people who are capable of developing ways of collaborating that make it possible to provide healthcare to patients based on multi-professional interconnected knowledge. The finding that students have the ability to be exploratory together and to generate knowledge independently can inform our understanding of what interprofessional learning is and the development of interprofessional learning activities.

Abstract in Norwegian

Denne studien utforsker og utvikler kunnskap om hva frivillige helseprofesjonsstudenter gjør i tverrprofesjonelle gruppemøter når de utvikler tverrprofesjonell helsehjelp til reelle pasienter selvstendig, gjennom en to uker lang felles praksisperiode. Kunnskapen som utvikles gir innsikt i hvordan studentene lærer tverrprofesjonelt samarbeid i møtene, noe som er av interesse for både utdanningsforskere og ledere og ansatte i helsetjenestene og helseprofesjonsutdanningene. Deltakerne er studenter fra medisin, sykepleie, ergoterapi og fysioterapiutdanningene, som organiseres i tverrprofesjonelle grupper og som gjennomfører praksisperioden i henholdsvis en geriatrisk rehabiliteringsavdeling, en korttids pleieavdeling eller en intermediær akuttavdeling i kommunehelsetjenesten. Dataene utvikles ved hjelp av et kvalitativt forskningsdesign og er inspirert av etnografiske metoder. Datamaterialet består av lydopptak fra møter i gruppene og gruppesamtaler med forsker, samt feltnotater fra observasjoner av de samme møtene og samtalene og annen samhandling. Det gjøres en tematisk analyse av datamaterialet med utgangspunkt i en praksisteoretisk verdensanskuelse og Wengers sosiokulturelle læringsteori. Analysen viser at studentene utvikler et tett gjensidig engasjement, en multiprofesjonell kunnskapsbasis og multidimensjonelle pasientbeskrivelser i pasientjournalen ved hjelp av hverandre i gruppene. Utviklingen i samhandlingen i studentgruppene tolkes som et resultat av at studentene velger å innlede et partnerskap med hverandre der de utforsker hvordan de kan arbeide tverrprofesjonelt i utviklingen av helsehjelpen til pasientene. Konklusjonen er derfor at studenter er meningssøkende kreative mennesker som evner å utvikle måter å arbeide på i fellesskap som gjør det mulig å gi helsehjelp til pasienter basert på multiprofesjonell sammenhengende kunnskap. At studenter har evnen til å være utforskende i fellesskap og utvikle kunnskap selvstendig kan informere utviklingen av kunnskapen om hva tverrprofesjonell læring er og utviklingen av tverrprofesjonelle læringsaktiviteter.

List of articles

Article I

Gudmundsen, A.C., Norbye, B., Dahlgren, M.A. & Obstfelder, A. (2019). Interprofessional student meetings in municipal health service: Mutual learning towards a Community of Practice in patient care. *Journal of Interprofessional Care*, *33*(1), 93-101. https://doi.org/10.1080/13561820.2018.1515732

Article II

Gudmundsen, A.C., Norbye, B., Dahlgren, M.A. & Obstfelder, A. (2019). Interprofessional Education: Students´ Learning of Joint Patient Care. *Professions & Professionalism*, *9*(1), Article e3185. https://doi.org/10.7577/pp.3126

Article III

Gudmundsen, A.C., Norbye, B., Dahlgren, M.A. & Obstfelder, A. (2020). Interprofessional student groups using patient documentation to facilitate interprofessional collaboration in clinical practice: A field study. *Nurse Education Today*, *95*, Article 104606. https://doi.org/10.1016/j.nedt.2020.104606

1 Introduction

The research question of this dissertation is *what health profession students do when interacting in interprofessional group meetings during joint voluntary clinical placement.* The aim of exploring this question is to enhance knowledge of how the students learn interprofessional collaboration in their meetings. The research question and the aim were inspired by the situation in knowledge development in the research field of interprofessional education within health professional education, as I understand it in the literature presented below.

1.1 The situation in knowledge development in interprofessional education

In the past thirty years, developments in health professional education around the world have enabled us to develop knowledge about interprofessional learning, as more and more programmes include interprofessional learning activities (Reeves et al., 2017; World Health Organization [WHO], 2010). These developments in education seem to be a response to the idea that interprofessional work will ensure quality and resource use in healthcare in a situation with ever more seniors and fewer working people in the population, as outlined in the WHO (1988) publication Education for Health from the late 1980s; new generations of healthcare personnel should therefore learn interprofessional collaboration during their education. Today, this development is also taking place in Norwegian health professional education, on the initiative of the Norwegian health authorities (Meld. St. 47 (2008-2009); Meld. St. 26 (2014-2015); Meld. St. 11 (2015-2016)) and education authorities (Meld. St. 13 (2011-2012); Meld. St. 16 (2016-2017); Meld. St. 16 (2020-2021)). Politicians and managers and staff in the education and health sectors have therefore for several years been interested in developing knowledge about interprofessional learning that can enhance learning activities where health profession students learn what they are meant to learn (Frenk et al., 2010; Meld. St. 18 (2012-2013); Meld. St. 16 (2016-2017)).

1.1.1 Student learning

However, it is still unclear today what interprofessional learning actually is. Systematic reviews of the research in the field state that sufficient knowledge has been developed today about health profession students' learning in interprofessional activities to draw the conclusion that students generally learn knowledge, skills and attitudes in interprofessional work by participating in these activities (Reeves et al., 2016, 2017; Spaulding et al., 2021). In particular, realistic learning situations seem to have a positive effect on student learning (Reeves et al., 2016). At the same time, reviews suggest that the results on which the above conclusion is based cannot alone provide answers as to what students actually learn and how they learn in interprofessional learning activities (Granheim et al., 2018; Kent & Keating, 2015; Reeves et al., 2016, 2017), and therefore cannot clarify what interprofessional learning actually is.

1.1.2 Little variety in research approach

Interprofessional learning is acknowledged by the research community to be a complex phenomenon. Research on the phenomenon must therefore adopt a meta-epistemological approach (Olson & Bialocerkowski, 2014; Reeves, Zwarenstein et al., 2010; Reeves et al. 2016, 2017), i.e. it must be based on a variety of theoretical perspectives, methodologies and methods. Despite this, we see that the research being conducted in the field, which forms the basis for the studies leading to the above

conclusion, has a one-sided methodological approach. The lack of variety in research approaches within the field therefore means that we do not yet have the necessary data basis to deepen our understanding of what interprofessional learning is.

Most studies of student learning generate data through various self-assessment tools (Almoghirah et al., 2021; Kent et al., 2017; Marion-Martins & Pinho, 2020; Oosterom et al., 2019; Reeves et al., 2016). These tools generally measure student experiences of their practice before and after interprofessional learning activities and in terms of predefined topics and variables related to knowledge, skills and attitudes (Almoghirah et al., 2021, p. 796). Data on student learning thus represent what individual students can and want to report, which is not necessarily what students actually do or would do in interprofessional learning activities (Almoghirah et al., 2021; Fox et al., 2018; Granheim et al., 2018; Kent & Keating, 2015; Reeves et al., 2016, 2017). For example, studies of interprofessional interaction situations between health professionals show that parts of what take place are inaccessible to the participants themselves (Morgan et al., 2015) and that what they think they do is not necessarily what actually happens (van Dongen et al., 2017).

At the same time, a review article on the self-assessment tools used shows that the tools themselves have weaknesses or are used incorrectly (Almoghirah et al., 2021). The tools do not clearly differentiate between interprofessional learning and uniprofessional learning, which makes it impossible to see this distinction in students' reports of their learning experience. Further, the tools are not always adapted to the type of learning activity being explored, which means that the data obtained will not be completely accurate in terms of what the tools are intended to measure (Almoghirah et al., 2021). Therefore, clear conclusions about student learning cannot always be drawn, even if the self-assessment tool used in a study is recognized and commonly used (Guitar & Connelly, 2021). However, all scientific approaches have their strengths and weaknesses that the individual researcher and the research community must consider. With regard to self-assessment tools, Almoghirah et al. (2021) state that the forms to be completed must be further developed and adjusted in relation to the learning activity to be examined, to increase their precision in capturing aspects of student learning. However, the uncertainty about whether students can and will report what they actually learn, together with inadequate data on what they actually do in interprofessional learning activities, still make it difficult to determine what students have learned and thus also how they have learned (Almoghirah et al., 2021; Kent & Keating, 2015; Reeves et al., 2017).

In pointing out that the majority of studies on interprofessional learning are based on self-reported data and thus need to be supplemented with other types of data, several authors of review studies emphasize and argue that there is now a need to move away from a one-sided approach towards greater variety in research in order to further our knowledge of the field. To complement student self-assessment, some authors specifically propose qualitative studies, such as observational studies (Kent & Keating, 2015; Olson & Bialocerkowski, 2014; Reeves et al., 2017; Thistlethwaite, 2012) of what students actually do in their interprofessional interaction (Almoghirah et al., 2021; Fox et al., 2018; Granheim et al., 2018; Kent & Keating, 2015; Reeves et al., 2016, 2017).

1.1.3 A need for theoretically grounded research

Several authors of systematic reviews also point out another key factor in the quest for further knowledge about interprofessional learning to enable findings to be recognized, regardless of the research approach. It appears that several studies in the field do not have a clear theoretical perspective

as a basis for their research, which makes it unclear which view of learning underlies the findings (Reeves et al., 2015, 2016, 2017; Thistlethwaite, 2012). According to Imsen (2005), learning involves a wide variety of processes and can therefore be understood in a number of ways based on different theories. A key distinction between learning theories is whether their main focus is on mental or social aspects of learning processes, but in both cases different understandings of people, life and society may form the basis (Imsen, 2005). Consequently, there is no all-encompassing learning theory that can elucidate how learning takes place, but the contributions from the totality of the theories can still provide a holistic understanding of what learning is (Imsen, 2005; Lyngsnes & Rismark, 2011). If the learning theory perspective is unclear in a study, it will be difficult for the research community to discuss the findings and systematize these in relation to results in other studies to enable collation into a holistic understanding of what interprofessional learning is.

1.1.4 My contribution to knowledge in the field

When I became a research fellow in 2014 in order to conduct research on an interprofessional learning activity organized by the Faculty of Health Sciences of UiT The Arctic University of Norway and three primary healthcare services, I became aware of the situation described above regarding the development of knowledge in interprofessional education and decided to focus on how students learn interprofessional collaboration in my dissertation. The learning activity was a two-week practice period involving students studying occupational therapy, physiotherapy, nursing and medicine, who were organized into interprofessional groups with one student from each of three or four of the professions. Participation was voluntary. The groups had independent responsibility for two or three pre-selected patients throughout the period and a mandate to work interprofessionally in patient care. The members of each group were at liberty to decide for themselves what to do in order to perform interprofessional work.

Based on the above description of the situation regarding the development of knowledge in the research field, it was clear to me that I had to explore what the students actually do when they interact in interprofessional learning activities, in order to generate knowledge about how the students learn interprofessional collaboration. I therefore decided on a qualitative research design, inspired by ethnographic methods, in order to obtain data from observations and conversations in the student interaction under study.

By pointing out that data is needed on what students actually do when they interact in learning activities, researchers seem to me to be referring to the importance of social dimensions as an expression of human learning. It is therefore natural to examine student interaction on the basis of a social learning theory, in order to capture what students are doing, and to understand and explain what and how they are learning. For this reason, I decided to base the data analysis on a general practice theory worldview. In a general practice theory worldview, society is understood as consisting of a network of social practices and all human actions as part of a social practice (Nicolini, 2012; Reckwitz, 2002). An individual practice is understood as a unit of action that involves specific ways of understanding and knowing how, wanting and feeling, and therefore as a form of collective knowledge between the participants in the practice, which is learned through participation. This is possible because human beings are goal-seeking creatures who develop common cognitive and symbolic structures of knowledge through all the social processes they participate in from birth (Nicolini, 2012; Reckwitz, 2002). Adopting a general practice theory worldview, I therefore understand

interprofessional work as one of the many social practices in society, which can be developed and learned by humans.

From the very beginning of my fieldwork, I wanted to be completely open as to the activity or activities I would focus on in my analysis of what students do in their interprofessional learning setting. At the end of the data collection, I decided to analyse the interaction in the students' group meetings, because the students themselves stated that the meetings were the activity that gave them the strongest experience of interprofessional collaboration. At the same time, I had long been curious to learn more about the pattern of interaction that I had observed in their meetings.

During my analysis of the data, I discovered that Wenger's (1998) socio-cultural learning theory of communities of practice enabled me to separate out and describe the patterns I observed in the students' interaction in the meetings and expand my understanding of what the patterns meant. This theory, which belongs to the family of practice theories, suggests that learning is interpersonal co-production of knowledge (Lyngsnes & Rismark, 2011; McMurtry et al., 2016; Wenger, 1998) and that a social practice can emerge when the participants develop and learn three closely interlinked dimensions in their mutual relationship. These are mutual engagement, joint enterprise and shared repertoire (Wenger, 1998).

By developing knowledge about the students' learning in this particular learning activity, on the basis of observational data and a theoretically grounded analysis, I have generated knowledge of student learning that is of interest both locally at UiT The Arctic University of Norway and in the research field in general, by providing deeper insight into what interprofessional learning consists of and thus informing the development of learning activities in professional education.

1.2 Structure of the dissertation

In Chapter 2, I give a brief presentation of how interprofessional education and interprofessional work are understood in the literature, and previous knowledge of health profession students' learning in realistic interprofessional learning activities. I then move on to the learning theoretical basis of this study, the context of the students under study and the societal context of the interprofessional part of the health professional education in question. I then provide a brief presentation of the overall objective of this study and the three articles that follow from this objective in Chapter 3. Chapter 4 contains a reflexive presentation of my work in the study, from the planning of the research to the results, which may help to provide transparency for the reader as to how the results were achieved. In Chapter 5, I describe the process of discovering and observing patterns in the data in the light of theory and my findings in each article separately, and the overall results. The results are then discussed in Chapter 6. In Chapter 7, I present my reflections on the reliability, validity and generalizability of my study. Then, in Chapter 8, I present a conclusion, together with my thoughts about further research. Finally, the three articles I have produced in this study are attached, followed by other documents that were necessary or informed the study.

2 Background

Interprofessional education is defined in policy documents and documents by experts in the field as education that enables students from two or more professions to learn from, with and about each other in order to improve collaboration and the quality of patient care (Centre of the Advancement of Interprofessional Education [CAIPE], 2013, 2017, p. 4; Interprofessional Education Collaborative Expert Panel [IPEC], 2011; WHO, 1988, 2010). The intention and expectation of this training is that the learning activities will increase student knowledge *of* and knowledge, skills and attitudes *in* interprofessional collaboration (CAIPE, 2013, p. 4; IPEC, 2011, 2016; WHO, 1988, 2010, p. 7), to enable them to work in an interprofessional manner when they start work as fully qualified healthcare professionals (CAIPE, 2017; WHO, 2010).

The interprofessional work for which students will be qualified is generally described in terms of the concept of teamwork in health and education policy documents, guidelines, reports and textbooks (CAIPE, 2017; Dow et al., 2017; IPEC, 2011; Meld. St. 13 (2011-2012); Meld. St. 11 (2015-2016); Orvik, 2015; WHO, 2010; Reeves, Lewin et al., 2010) and in the literature on interprofessional education (Fox et al., 2018; Lairamore et al., 2018; Reeves et al., 2017). A team can be understood as a group of people who pursue a common goal (CAIPE, 2017). In a review of teamwork theory, the authors suggest that the concept implies that the group members relate to the group and jointly clarify the roles and tasks of each member, create dependency and integrate with each other and take responsibility for the overall practice in the group (Reeves, Lewin et al., 2010).

In this study, I explore student learning of interprofessional work in a realistic learning activity, based on general assumptions about society as understood in the various practice theories. This means that I understand interprofessional work as a social practice that develops in the same way as other social practices in society. However, I will start this chapter by presenting existing knowledge of student learning in realistic learning activities, more specifically in authentic learning situations. Then I will briefly outline key learning theories and explain the theoretical basis I have chosen for my study. I will then move on to describe the learning activity of the students under study, before concluding the chapter by explaining the societal context in which the development of interprofessional learning activities in education is taking place and which makes knowledge of interprofessional learning particularly relevant in today's society.

2.1 Existing knowledge of interprofessional learning in realistic learning situations

Realistic learning activities are described in the literature as both simulations of interprofessional interaction and authentic interprofessional interaction in healthcare situations (Lim & Noble-Jones, 2018); however, these two types of activity are very different in terms of content and time (Astbury et al., 2021; Fox et al., 2018; Lim & Noble-Jones, 2018; Marion-Martins & Pinho, 2020; Welsch et al., 2018). Simulations may involve practising on mannequins or other students in an educational institution or healthcare facilities, but online virtual simulation is also used. Authentic activities vary from meetings to cooperate on real patient cases to patient treatment in student clinics or regular healthcare facilities. However, the main difference between simulations and authentic activities is that in the latter students to some extent relate to real patients with real needs (Astbury et al., 2021; Lim & Noble-Jones, 2018) and real staff in a real healthcare service (Lim & Noble-Jones, 2018). This dissertation specifically deals with interprofessional learning in authentic learning activities and the

development of knowledge in this area of the research field. Authentic interprofessional learning activities will therefore be the topic of this section.

A search in the CINAHL, ERIC, MEDLINE and ProQuest databases reveal that the number of studies of health profession students' learning in authentic interprofessional learning activities has been increasing in the last twenty years, and especially in the past five to ten years. The learning activities of the students studied vary considerably between these studies in terms of content and duration. For example, they range from individual events where students sit together to discuss real patient cases to students jointly preparing and conducting one or more patient consultations, or students performing patient care in interprofessional training wards over weeks or months. The students may represent two or more professions in various combinations, and participation can be voluntary or compulsory. In general, the purpose of studying student learning in this way seems to be to determine the effect of a particular learning activity on the students' learning, but in some cases a further aim is to explore the development process involved in an interprofessional learning activity or to show how specific research methods or tools or combinations of these can capture the learning taking place. The methodological approach in the studies may be quantitative, qualitative or mixed methods. However, review studies provide an overview of overall findings on student learning in authentic interprofessional activities. Although the learning activities, the student professions involved and the methodological approach vary in the individual studies included in the different review studies, the summarized findings constitute a relevant basis for discussion in relation to new studies in this area. I therefore present the findings of some recent review studies on the topic of student learning in authentic interprofessional learning activities in Chapter 2.1.1.

At the same time, my own study uses a qualitative design. Inspired by ethnographic methods, I generated data through observations and informal conversations and interpreted the data within a socio-cultural understanding. The findings in studies by other researchers who use a similar methodology will thus provide the most suitable basis for a discussion of my own findings. A further search in the databases mentioned above reveals a greater number of qualitative studies of student learning in authentic interprofessional learning activities in 2011-2022 than in 2000-2010, with the greatest increase since 2015. This also applies to mixed methods studies, i.e. those that combine qualitative and quantitative methods of data collection. Various methods are used to generate qualitative data on student learning, such as interviews with individual students and/or groups, questionnaires with open questions, examination of students' reflection logs and other material written by students and filming of student activity, all of which may be performed on one or more occasions. Further, passive participant observation may take place over shorter or longer periods, sometimes involving a checklist. Finally, in very many cases a researcher will use a combination of two or more of these qualitative methods.

In studies described as ethnographic or inspired by ethnographic methods, focus group interviews are more often used than observations to generate data. However, some studies include observation in their repertoire of methods without referring to ethnography. In fact, irrespective of whether or not studies explicitly refer to ethnographic methods, I often find that the observational data generated are not included in the presentation of the findings or are less prominent there than interview data, which are often also generated. Instead, some of the authors of these studies comment that the observational data are included as a backdrop to support the findings generated from other types of data in the studies. The reader is given no explanation of how the observational data support the various findings

presented. Overall, I have only found four studies that describe findings based on observational data to the extent that I can discuss the findings and compare them with my own findings generated from observational data. These four studies are presented in Chapter 2.1.2. In my further search for studies that use a socio-cultural understanding as the basis for interpretation of data from student interaction in authentic interprofessional learning activities, I found only one study apart from two of my own studies on which this dissertation is based. That study also uses Wenger's (1998) concept of communities of practice as an interpretative framework. However, the findings are primarily presented on the basis of interview data, while the observational data seem to form a backdrop to the findings, without any clarification as to how they support the findings or which findings they support. I am therefore unable to compare these findings with my own findings. A further search for studies that adopt the concept of communities of practice as a framework of understanding yields the same result.

To summarize, the development of knowledge about student learning and interaction in authentic interprofessional learning activities, based on observations and a socio-cultural perspective, seems to be still in its infancy. My study may therefore add new information to the discussion about student learning in the research community that aims to generate knowledge in this particular field. However, this is with the proviso that a broader literature search in more databases, using different search terms, might have revealed further comparable studies.

2.1.1 Knowledge of interprofessional learning in authentic learning activities as presented in review studies

As mentioned in Chapter 1.1.1, realistic learning situations seem to have a specific positive effect on student learning in interprofessional education (Fain & Kennell, 2017; Reeves et al., 2016). Students in general enjoy interprofessional work as part of their education (Granheim et al., 2018; Marion-Martins & Pinho, 2020) and that authentic interprofessional interaction appears to have a positive effect on student learning (Jakobsen, 2016; Kent et al., 2017; Lim & Noble-Jones, 2018; Oosterom et al., 2019). This is particularly true when students are allowed to practise their own profession in the activity (Granheim et al., 2018). The reason why students like this learning method is generally assumed to be the possibility to develop concrete, real and relevant collaborative knowledge and skills (Granheim, 2018; Reeves et al., 2016).

Students also seem to enhance their teamwork skills and their understanding of their own and other professionals' role in the learning activities (Jakobsen, 2016; Kent & Keating, 2015; Oosterom et al., 2019), which prevents them from developing stereotypical views of each other's profession (Kent et al., 2017: Lim & Noble-Jones, 2018; Oosterom et al., 2019). However, some review articles show that stereotypical views of other professions are not always eradicated (Jakobsen, 2016; Reeves et al. 2016).

Further, communication can be improved (Jakobsen, 2016; Kent & Keating, 2015; Kent et al., 2017), which gives students a feeling of security in the group (Lim & Noble-Jones, 2018). If there is good communication, the various participants will all be involved in the information loop that follows the patient's situation, which will also lead to better treatment and care (Lim & Noble-Jones, 2018, p. 220). Additionally, we see that shared workspaces have a positive effect on communication (Lim & Noble-Jones, 2018). As a parallel to this, Morgan et al. (2015) points out that it is essential for groups of health professionals who work interprofessionally to have opportunities for informal talk, to enable

them to develop shared knowledge, set common goals and make joint decisions. A shared workspace allows for informal conversations between discussions about patients.

Working in teams can make students feel equal and therefore more secure; further, their discussions on planning healthcare for patients improve trust and respect (Lim & Noble-Jones, 2018, p. 220). Not only do they discover that they have different perspectives within the team, but also that the totality of their knowledge forms the basis for a better understanding of patients' situation, which thereby increases their self-confidence (Kent & Keating, 2015; Lim & Noble-Jones, 2018).

Furthermore, students discover that they can provide effective interprofessional care to patients when patient-centred care is their common goal in the interaction and they find that knowledge exchange is beneficial when they have a joint focus on the patients (Lim & Noble-Jones, 2018, p. 220). It should also be noted that students in authentic learning activities must to some degree interact with patients and healthcare staff, which puts greater pressure on them than in simulation activities (Granheim et al., 2018; Lim & Noble-Jones, 2018).

Some studies show that students who participate in interprofessional learning activities in student clinics at a late stage of their education report a better understanding of their own and others' roles than students at an earlier stage, which is linked to stronger professional identity and greater ability to gain knowledge of other professions (Lim & Noble-Jones, 2018, p. 221). Studies also show that students in their final year value their autonomy and independence when providing healthcare in interprofessional student clinics (Oosterom et al., 2019). However, students state that they need the help of supervisors or teachers to structure their learning process (Lim & Noble-Jones, 2018).

Reeves et al. (2016) note that students who participate voluntarily in interprofessional learning activities in general report the most successful learning outcomes and link this finding to the fact that students who volunteer already have a positive attitude to interprofessional learning before the learning activities start, which is believed to affect their learning process. Similarly, those who are not positive about participation more often report a lower learning outcome. However, Reeves et al. (2016) comment that these results may not be reliable, as most studies included in systematic reviews of interprofessional learning are in fact based on voluntary participation. Students who volunteer thus constitute the largest group reporting learning outcomes (Reeves et al., 2016).

2.1.2 Observations of student learning in authentic interprofessional learning activities

A study by Brewer and Flavell (2021) examined student behaviour during participation in team-based interprofessional practice, adopting overt ethnography as a research method. The results were compared with reports by former students in individual and focus group interviews, which revealed that students improved their professional communication, leadership, understanding of other professions and collaboration (p. 539). The students were seniors in an undergraduate course or a master's entry programme in physiotherapy, occupational therapy, pharmacy, speech pathology, a master degree course in dietetics and counselling psychology and nursing students about halfway through an undergraduate course or in the final year of a graduate entry masters course. The students' practice period took place at two primary schools and one residential aged care facility. An activity typology by Xyrichis et al. formed the basis of the analysis (Xyrichis et al., 2018, referred to in Brewer & Flavell, 2021, p. 538). Brewer and Flavell found that the students performed patient-centred

work in the groups but suggested a division into higher and lower functioning groups (pp. 541-542). Typical of high functioning groups is the use of humour by students to build rapport, reduce tensions and show humility (pp. 541-542). They adopt an informal, everyday communication style in both professional and non-professional discussions and their discussions are never solely consultation-based. The tone is reassuring, supportive and engaged and the interaction is frequent and varied. The students move around to enable them to sit down with the person with whom they want to discuss a task or socialize. Knowledge and suggestions are shared, and professional jargon and abbreviations are explained. The goals of individual professions are included in patient care. The students seek knowledge from each other and further develop, or are critical of, each other's ideas. They also tell each other anecdotes They offer each other assistance and take turns to be leader or adopt an inclusive leadership style. The interaction in the groups is described as respectful, supportive, considerate, engaged, interested and friendly (p. 541). In the low functioning groups, which were few in number in the study, the tone is formal and humourless (p. 542). Interaction takes place at a lower level and shows little variation. The students rarely take each other into consideration; they rarely share ideas, knowledge and skills and have little discussion on the tasks to be performed. Instead, they tend to interact with staff from their own profession and to solve the tasks uniprofessionally. People with a strong personality become the leaders. Brewer and Flavell related the differences between the types of groups to the students' psychological security; students in the high functioning groups were interpreted as being action-oriented and having the expectation that their relationships will be based on mutual trust and respect, even if they may lack knowledge in some areas (p. 543). The authors therefore state that students must be assisted in acquiring psychological security in addition to performing patient-oriented care in interprofessional learning activities (Brewer & Flavell, 2021, p. 544).

Ivarson et al. (2021) explored student interaction in three interprofessional teams in a new learning activity named Call the On-Call, which was performed during the students' three-week practice period on an orthopaedic interprofessional training ward. The study was inspired by ethnography and data was generated through observations, interviews, and documents. The teams consisted of senior students in medicine, nursing, occupational therapy and physiotherapy. The purpose was to find out what learning took place and how it took place (p. 276). In the learning activity, a student of medicine accompanied an orthopaedist for a few hours on certain afternoon shifts (p. 277). While the medical student was away, a nursing student called to consult him about an authentic or simulated patient situation. Ivarson et al. found that the Call the On-Call activity enabled the students to plan their work on the ward and that the nursing student set priorities in patient situations in the absence of the medical student. Further, that practicalities were revealed and resolved during the Call the On-Call conversation and a "home-coming" session took place when the medical student returned (pp. 278-280). In this session, the two students shared their experiences from their telephone conversation and demonstrated new aspects of their roles to each other and to the student team, while the other team members asked searching questions and all the students used their imagination and their ability to take others' perspectives. The students also discussed what took place on the ward. Feelings of uncertainty and inadequacy were revealed during the activity and in the following session. These feelings were discussed several times in informal settings and structured reflection meetings, and the students were thus given time and space for reflection. At the same time, the relationship between the students developed. The importance of a clear, structured dialogue in the telephone conversation, using the SBAR (Situation, Background, Assessment and Recommendation) technique, also became very clear to the students, particularly the medical and nursing students. Based on the findings, the authors put

forward the idea that interprofessional learning can also take place when one or more students perform uniprofessional activities alone or together, not only among the students involved in the activity, but also for the broader group of students. However, it seems to be necessary that the students are already familiar with one another, i.e. that they have shared tasks, patients and rooms prior to the Call the On-Call activity (Ivarson et al., 2021, p. 281).

Based on Pekruns description of dimensions of emotions (Pekrun, 2011, referred to in Jakobsen et al., 2019), Jakobsen et al. (2019) examined the self-reported and observed relationship between the roles of four types of emotions, activity, outcome, epistemic and social emotions, and analysed the valence and activation of these emotions, and how they affect student learning (p. 58). The students in their study were senior students of medicine and nursing on regular practice in an orthopaedic outpatient clinic; in pairs, they were independently in charge of the care of three patients two days a week (p. 58-59). They were given supervision on request. Before the consultation, the students presented a detailed plan to their supervisors, based on the available patient information. The students then distributed their roles in the consultation between themselves. After the consultations, the students first reflected individually and then with their supervisor. The authors found that the students' learning could be self-regulated and cooperative (p. 60). In self-regulated learning, the authors identified negative emotions related to unforeseen events during the consultation and during the subsequent reflection activity (pp. 60-61). These negative emotions were experiences that the students were unprepared for, such as aspects of the consultation itself, the patient's behaviour or the distribution of tasks. However, the students turned such events into something positive afterwards by saying that they prepared them to deal with similar experiences in the future. This was also mentioned in reflections with their supervisor and the researcher, both individually and with the other students afterwards. Negative emotions during the reflection activity itself were generally linked to a feeling of a lack of professional knowledge and skills, which meant that the student had to seek help from supervisors. In cooperative learning, the authors identified three characteristics of the joint consultation that the students found positive (p. 62-63). These were equality, communication and role distribution. Equality implies that students feel that they are equals in the particular situation and context when they set themselves a common goal for a task and solve it together. Communication is good when they find that they can communicate their thoughts and opinions to each other, while role distribution works well when the roles are performed correctly during the consultation. The authors suggest that meta-reflection could turn negative emotions in learning processes into positive emotions, thus leading to a positive learning outcome, and that students are capable of meta-reflection both independently and with others. The authors conclude that the findings are aligned with the literature that describes the relationship between emotions and learning (p. 64). Further, that the indirect supervision before the patient consultation and in the reflection afterwards must be clearly structured and match the students cognitive and practical capabilities, to encourage the students self-regulated and cooperative learning (Jakobsen et al., 2019, p. 64).

Kent et al. (2016) have conducted a study of how students from different professions cooperated in teams on a clinic day in an outer metropolitan general practice clinic or a residential care clinic, adopting an ethnographic research approach informed by activity theory. The teams consisted of fourth of final year students in medicine, nursing, occupational therapy, physiotherapy and pharmacy. The students were divided into teams according to patient needs and were given an hour to study the patient information together. They then planned and conducted an hour-long interview with each patient. The students used a general health prompt sheet, which provided a list of areas for

examination. They were offered supervision as needed. After the interview, the students wrote a summary of their findings for the patients' general practitioner and the patient cases were presented and discussed across the groups of students involved (p. 752). The authors found two activity systems, namely the students' acquisition of patient information to determine the need for healthcare and the patients' adaptation as either health consumers or student educators (p. 753). Further, the authors found that unwritten rules became established among the students. Two of these were that everyone must contribute and that the patient must be the main source of information. The rule that all students need to contribute was demonstrated by the students taking the initiative to ask for each other's perspectives and discuss each other's roles and skills, also silent students were asked to participate (pp. 755-756). Further, by asking for information and clarification, and creating discussions that resulted in a common understanding in various issues. Specialized terminology was clarified and specialist knowledge was shared. During the presentation of the patient cases, the students also provided each other with additional details. The exception was in one team where many of the tasks were carried out by one student alone (p. 758). The rule that the patient should be the main source of information was shown by the fact that the patient perspective was central to the discussions and the recommendations for further care (p. 756); however, the consultation was based on the general health prompt sheet. The positive aspect of this was that the sheet enabled a broader examination, while some teams were still unable to grasp the patient's priorities (p. 758). In these teams, this seemed to happen when the patients´ issues was beyond the students´ interest or expertise, or the content of the screening prompt tool (p. 757). The student who led the team was often determined spontaneously based on profession, personality or self-confidence, rather than on explicit discussions about this (p. 756). The medical student often became the leader because he or she was familiar with the software that provided access to the patient's current medical situation at the clinic (p. 754); this was a key tool in the students' work, and the medical student thus navigated the patient information on behalf of the team. The students also distributed tasks to enable them to finish in the time they had available, preferably on the basis of the knowledge or self-confidence of the different students in the various areas for examination included in the general health prompt sheet (p. 754). The authors concluded that the meetings between student teams and patients sometimes showed different priorities, values and perspectives on how the patients´ health should be managed, and that tools to support student interaction must be selected carefully in order to maximize cooperation and distribute leadership (p. 759). Further, that patients should be engaged in interprofessional education (Kent et al., 2016, p. 759).

2.1.2.1 The observational studies summarized

In the four observational studies, the students´ interaction was explored in four learning activities which were different in terms of context, content, duration, guidance and student composition. Additionally, the authors have different focuses in their studies and use different theories as the basis for the analysis and interpretation. However, a common denominator is that the students in all four studies are halfway through or at the end of the course of study. Additionally, in the studies by Brewer and Flavell (2021), Jakobsen et al. (2019) and Ivarson et al. (2021), the learning activity in which the students participate in seem to be a part of the students´ regular study program or regular placement in one specific unit. At the same time, some observations seem to be similar across two or more studies. These are:

- The students initiate collaboration with each other regarding the patients´ treatment in the teams (Brewer & Flavell, 2021; Ivarson et al., 2021; Kent et al., 2016).

- The students use each other as source of information and learn from and about each other in the teams (Brewer & Flavell, 2021; Ivarson et al., 2021; Jakobsen et al., 2019; Kent et al., 2016).
- The students discuss and plan the patient treatment together (Brewer & Flavell, 2021; Ivarson et al., 2021; Jakobsen et al., 2019; Kent et al., 2016).
- The students follow up on patient work as they planned together (Brewer & Flavell, 2021; Ivarson et al., 2021; Jakobsen et al., 2019; Kent et al., 2016).
- The students behave in a friendly and respectful manner and treat each other equally in the teams (Brewer & Flavell, 2021; Ivarson et al., 2021; Jakobsen et al., 2019; Kent et al., 2016).
- The students use the tools they are assigned to be able to work across professions (Ivarson et al., 2021; Kent et al., 2016).
- A minority of the student teams (Brewer & Flavell, 2021) or individual students (Jakobsen et al., 2019; Kent et al., 2016) interacts to a lesser extent as shown in the bullet point above.

One observation nevertheless turns out to be different across three studies. It turns out that the form of management can vary greatly, even when the students interact in patient care. The leadership in the teams can be shared or have an inclusive form (Brewer & Flavell, 2021; Jakobsen et al., 2019) or be based on profession, personality or self-confidence, with a tendency for the person who knows the patient history software to lead (Kent et al., 2016). In teams where the students have little interaction, students with a dominant personality often become the leader (Brewer & Flavell, 2021), or individual students take the lead in tasks in contexts where something else is expected to be agreed in advance (Jakobsen et al., 2019).

However, the elaboration of the observations of the students´ interaction summarized above is different in the four studies. Therefore, the individual studies provide different opportunities for discussing findings across different studies in depth.

2.2 Theories of learning

In the literature, some theories are currently described as more important than others; examples are cognitive, constructivist, behavioural and sociocultural learning theory (Illeris, 2018; Imsen, 2005, Lyngsnes & Rismark, 2011).

Cognitive and constructivist learning theory focus on what happens in people's minds, i.e. the mental processes that take place from the time a person senses something until the person reacts to the sensing (Imsen, 2005, p. 35). In both theories, people are understood as actively processing knowledge (Imsen, 2005). However, in *cognitive theory*, knowledge is understood as something that exists outside people, which people interpret and organize in meaningful contexts (Imsen, 2005) or as coherent units (gestalts) (Illeris, 2018; Imsen, 2005), on which they act independently (Imsen, 2005). By contrast, *constructivist theory* understands knowledge as being "inside" people, in their minds, where it is continuously constructed and reconstructed through the experiences gained by people during their actions (Imsen, 2005). People themselves choose and interpret external stimuli and adapt them to their inner "system" by filtering them through their existing knowledge (Imsen, 2005, p. 38). Learning takes place when people understand the connection between actions and the result of these actions (Imsen, 2005, p. 38). In this way, we construct subjective knowledge in interaction with our environment, which is then placed in our mental schemas (Illeris, 2018; Imsen, 2005) and which thus becomes very private (Imsen, 2005). However, in *social constructivist theory*, learning is understood

as taking place through language and as shaping our way of understanding the world (Imsen, 2005, p. 39). Learning is therefore in principle linked to social processes in life.

Behavioural and sociocultural learning theory both focus on people's behaviour, i.e. what they do, but have different views of people, knowledge and society (Imsen, 2005). In *behavioural theory*, the world is understood as consisting of objects, which also include people, and these objects can be observed as they are (Illeris, 2018; Imsen, 2005). People are understood as biological mechanisms and "black boxes" that can be filled and shaped with elements of ready-made external knowledge, where reward and punishment will determine the effect of these elements on the person (Imsen, 2005). Learning is understood per se as a stimulus-response relationship, where behaviour change following an external stimulus is understood as implying that learning has taken place (Imsen, 2005). The response can be observed and measured (Illeris, 2018; Imsen, 2005). In contrast to the behaviourist approach to understanding humans and learning, humans are understood as active social beings in sociocultural learning theory (Imsen, 2005). Here, knowledge is embedded in culture and language and is transferred and further developed between people through their constant natural interaction in different communities from birth (Imsen, 2005; Reckwitz, 2002; Wenger, 1998). The learning that takes place is expressed through developments in people's actions (Imsen, 2005; Wenger, 1998).

Today, there is little disagreement that learning has both mental and social dimensions, despite the fact that learning is explored from different theoretical perspectives.

2.2.1 Society, the individual and learning in a general practice theory perspective

As mentioned in Chapter 1, practice theories are generally based on an understanding of society as a network of social practices and of people as goal-seeking beings. The network is believed to have grown and to continue to grow through continuous negotiations of meaning between people, where every human action is directed towards a particular goal that the individual wants to achieve in life (Nicolini, 2012; Reckwitz, 2002). On their path towards the goal, people can develop specific ways of understanding and knowing how, wanting and feeling, and generate a form of collective knowledge that leads to goal achievement (Nicolini, 2012; Reckwitz, 2002). However, actual participation in a given practice can at different times involve developing, maintaining, modifying or terminating the practice (Nicolini, 2012; Reckwitz, 2002).

From a general practice theory perspective, people will thus learn through participation in social processes, and it is therefore assumed that learning takes place continuously, in all our informal and formal everyday activities (Lave & Wenger, 1991; Nicolini, 2012; Reckwitz, 2002; Wenger, 1998). Learning is therefore understood primarily as a social phenomenon (Lave & Wenger, 1991; Nicolini, 2012; Reckwitz, 2002; Wenger, 1998).

Practices are created because people are believed to share cognitive and symbolic knowledge structures, which enables them to inscribe the world with meaning in collective ways (Nicolini, 2012; Reckwitz, 2002). Further, people are assumed to learn and thus become bearers of a number of different practices from birth (Reckwitz, 2002); this takes place because people are thought to be constantly able to relate what they know to what they do not know, in order to find meaning and form a basis for their actions (Lave & Wenger, 1991; Wenger, 1998). At the same time, different people, within the same and different cultures, are assumed to be bearers of different combinations of the

practices that make up the society in which they live (Reckwitz, 2002), because individual people will participate in different combinations of the practices throughout their life.

However, practices in a society are not to be understood as permanent. A given practice is only assumed to be reproduced in a particular form as long as the underlying knowledge realizes the goal of the practice in an appropriate manner. If the participants find that the knowledge no longer works for any reason, they would be expected to change the practice in some way or discontinue it (Nicolini, 2011; Reckwitz, 2002).

Although the phenomenon of learning is understood as a social process in practice theories and is directly linked to interaction processes connected to practising, developing, reproducing and changing social practices, this does not imply that individual mental processes are excluded (Reckwitz, 2002; Wenger, 1998). Rather, the practice theory perspective understands the individual cognition and motivation that take place as being mediated by the social interaction in which the individual participates (Schoor et al., 2015, p. 99). In this perspective, repetition, change or termination of actions and interaction between the participants in a practice are representations of learning (Nicolini, 2012; Wenger, 1998), and can be observed and described by the participants themselves and by others (Wenger, 1998).

2.2.2 Communities of practice

Wenger (1998) suggests that social practices are established when people who jointly pursue a goal develop three closely interlinked dimensions in their mutual relationship on the way to achieving the goal, which is the result of a reification process. Here, the participants form structures and objects to represent their understanding of the common goal and how to achieve it together. The three closely intertwined dimensions are *mutual engagement, joint enterprise* and *shared repertoire*. When all three dimensions have been established between the participants, not only has a social practice been created, but the participants have also formed a unique community of practice that has its own way of realizing the practice (Wenger, 1998). The three dimensions are presented below.

2.2.2.1 Mutual engagement

The dimension of *mutual engagement* refers to how people pursuing a common goal must establish a mutual relationship and achieve the necessary depth and complexity in this relationship to achieve the common goal (Wenger, 1998). This mutuality involves engagement over time in the elements required to be able to move towards the common goal (Wenger, 1998). To achieve this, participants include themselves and are included by other participants in the actions to be performed (Wenger, 1998, p. 74). These actions consist of both the activities required to instigate movement towards the goal and activities that nurture the community itself (Wenger, 1998). Wenger (1998) argues that both aspects require that all participants maintain a continuous focus and that they are interrelated in a variety of ways. Participants must also be able to relate to each other's differences and similarities in knowledge and skills and be willing to give and take and find shared ways of doing things, despite underlying disagreements, tensions and conflicts (Wenger, 1998, p. 77). However, this does not mean that all significant actions or activities are explicitly stated. Some of what is necessary to engage oneself and each other is communicated non-verbally and some key activities are subtly expressed, such as informal talk or the sharing of snacks among colleagues (Wenger, 1998, pp. 74-75).

2.2.2.2 Joint enterprise

Joint enterprise implies that people who pursue a common goal must be capable of understanding the goal and the way to achieve it sufficiently well to take responsibility for and contribute to the activities required; in this way (Wenger, 1998, p. 137), goal achievement will be based on joint efforts, even if the participants are different (Wenger, 1998). To succeed in this, participants must create a professional and personal context to discuss with each other their individual knowledge and perspectives related to the goal itself, the path to goal achievement and any disagreements that may arise. They must decide what is important, what must be done or followed up, what can be talked about, what is legitimate, what can be shown, what is good enough or must be developed, and what is not (Wenger, 1998, p. 81). This also implies that the participants must let themselves be informed by each other and commit to following up the activities that they help to initiate (Wenger, 1998).

2.2.2.3 Shared repertoire

The *shared repertoire* dimension implies that people who pursue a common goal must develop or adopt resources to negotiate meaning among themselves in order to move towards their goal together, because they will have different ideas about both the goal and the path to reach it. These resources can be activities, relationships and material and non-material items, such as procedures, words, tools, methods, gestures, stories, symbols, genres, actions and concepts (Wenger, 1998, p. 82).

2.2.2.4 Reification processes

An interaction process where participants create structures and objects that represent their understanding of the goal they wish to realize and how they can jointly achieve it, leading to the three dimensions of a social practice, can be understood as a reification process (Wenger, 1998).

2.2.2.5 Imagination

Wenger (1998) understands people's imagination as an important component of their experiential world, as a creative process where people can expand the self by creating images of themselves and the world that go beyond time and space. When people have to find out what to do to develop and establish a particular social practice, they can use their imagination together, make the unknown familiar and create experiences that can be evaluated and used as a basis to develop new actions. This process may both originate from and become collective imagination (Wenger, 1998).

2.2.3 Boundary crossing and boundary objects

The concepts of *boundary crossing* and *boundary object* describe how collaboration can be established between participants who represent different practices and thus how learning takes place at the boundary between the practices (Akkerman & Bakker, 2011).

The concept of boundary crossing indicates that new and more complex knowledge can be developed through collaboration across professional boundaries. However, in order to realize collaboration that yields such knowledge, participants must create an environment where they can negotiate and combine their different expertise and not be constrained by what belongs within the boundaries of their own profession (Akkerman & Bakker, 2011; Wenger, 1998). In order to cross boundaries in this way, the participants must have found that the knowledge they use is no longer sufficient to achieve the goal they are pursuing and that some tasks can only be solved by drawing on knowledge from another profession (Akkerman & Bakker, 2011). This does not mean that they must adopt each other's basic professional perspectives; instead, they develop a multi-professional knowledge base.

In order to cross professional boundaries in this way, the professionals involved must have meaningful objects to collaborate on (Akkerman & Bakker, 2011; Wenger, 1998). These can be material or non-material objects that interest the participating professionals and can thus connect the work of the different professions (Akkerman & Bakker, 2011; Wenger,1998). They then function as boundary objects, thus building bridges between different professional perspectives (Akkerman & Bakker, 2011; Star, 2010; Star & Griesemer, 1989; Wenger, 1998). Such objects can be artefacts, documents, forms of expression, concepts and ideas (Wenger, 1998, p. 105) or theories (Akkerman & Bakker, 2011). An object can also have the character of an "epistemic thing", i.e. an open concept unfamiliar to the participants, but which strongly appeals to their feelings and creates close bonds between them to collaborate on finding out what it is (Nicolini et al., 2011, p. 614).

People outside the practice or in the professional environment who see the possibility of creating change or something new by working across professional boundaries can introduce and facilitate interprofessional collaboration and propose a boundary object (Wenger, 1998). Alternatively, the people who want to learn an unfamiliar practice may have to work out what to do themselves. In such cases, they can use their imagination to envisage what they will do, and their subsequent experiences will form a basis for continuous evaluation of their actions and the creation of new actions (Wenger, 1998).

2.3 The context of the study

This study explored the learning that took place between students in six interprofessional groups during a two-week interprofessional practice period arranged by UiT The Arctic University of Norway and primary healthcare services in three local authorities. This was a trial of a new type of student practice. The students were in the third year of a bachelor's degree programme in nursing, physiotherapy or occupational therapy or the fifth year of a programme in medicine when they participated. The healthcare facilities involved were a geriatric rehabilitation ward, a short-term nursing ward and an intermediate emergency ward.

The practice period was based on a sociocultural learning perspective that recognizes that people learn through participation in communities of practice. The students were organized into groups with one student from each of three or four of the professions. The students did not know each other and did not receive any specific training prior to the practice period. The groups were given independent responsibility for two or three pre-selected patients in the health facility where they were placed and were at liberty to find out for themselves what to do in order to work interprofessionally in patient care and treatment. They also had to perform the work themselves or access relevant expertise from healthcare professionals if they themselves did not have the necessary knowledge or skills. The students only worked day shifts on weekdays. They had to cooperate with the other healthcare staff and participate in the regular meetings where they reported on their work with the patients.

One member of staff at each facility was the students' interprofessional coordinator, introducing them to the healthcare facility service, meeting them regularly to become familiar with what they were doing and being available to answer any questions about the ward and the collaboration. At the same time, one staff member from each of the students' professions was their professional supervisor and was available for questions of a professional nature.

2.4 The societal context of interprofessional education and studies of student learning

The increased interest in interprofessional learning in health professional education is related to the demographic and epidemiological developments taking place in a number of countries, where the proportion of elderly and chronically ill people is increasing, with a corresponding increase in the demand for long-term and complex healthcare (CAIPE, 2013, 2017; Frenk et al., 2010; WHO, 2010). This problem was already discussed in the 1980s by the WHO (1988), because the trend means that healthcare services must eventually be run by a smaller proportion of people of working age, which can reduce the quality and safety of patient care. One of the solutions proposed to maintain quality and safety is to organize healthcare in an interprofessional manner (WHO, 1988). Since the 1980s, more and more healthcare services worldwide have become interprofessional (WHO, 2010).

In Report No. 47 to the Norwegian Parliament "The Coordination Reform" (2008-2009), the health authorities discussed the problems of the demographic and epidemiological trends in Norway. The proportion of seniors (Brunborg & Texmon, 2005) with chronic and complex diseases (Meld. St. 47 (2008-2009)) is also increasing in the Norwegian population, as is the demand for health services (Meld. St. 47 (2008-2009); Meld. St. 29 (2012-2013)). At the same time, morbidity is increasing in younger people. Taken together, these factors mean a decreasing proportion of people of working age who can finance and implement healthcare (Meld. St. 47 (2008-2009)). Further, the health authorities state that specialization in the healthcare sector has been pursued to such an extent that patient care has been fragmented, leading to a risk of poorer quality, patient safety and cost-efficiency, which will only increase in the coming years if nothing is done. One of the solutions is to facilitate interprofessional healthcare (Meld. St. 47 (2008-2009); Meld. St. 29 (2012-2013); Meld. St. 26 (2014-2015); Meld. St. 11 (2015-2016)). By adopting an interprofessional approach, the Norwegian health authorities expect healthcare personnel to be able to develop comprehensive and consistent care in order to mitigate the risk that fragmentation currently poses to quality, patient safety and cost-efficiency, even if demand for healthcare increases (Meld. St. 47 (2008-2009); Meld. St. 26 (2014-2015); Meld. St. 11 (2015-2016); Meld. St. 7 (2019-2020)).

According to the WHO (1988), healthcare personnel need interprofessional collaboration skills in order to provide interprofessional healthcare. The WHO therefore proposes that these skills form part of professional education. The Norwegian health authorities even describe interprofessional collaboration skills as a core competency for new generations of healthcare professionals and emphasize that these skills must be learned in professional education (Meld. St. 47 (2008-2009); Meld. St. 26 (2014-2015); Meld. St. 11 (2015-2016)). Referring to the description of the situation by the Ministry of Health and Care Services, the Ministry of Education and Research (Meld. St. 13 (2011-2012); Meld. St. 16 (2016-2017); Meld. St. 16 (2020-2021)) also emphasizes the goal that Norwegian health profession students learn interprofessional skills during their studies. In general terms, the Ministry of Education and Research (Meld. St. 16 (2016-2017)) expresses an expectation that learning in these programmes is evidence-based, especially when changes are made to the curriculum, thus enabling students to learn what they are meant to learn in effective ways. Research-based knowledge of what interprofessional learning consists of is therefore of great interest to society.

3 Aim

As mentioned, the research question of this dissertation is *what health profession students do when interacting in interprofessional group meetings during joint voluntary clinical placement.* The aim is to enhance knowledge of how the students learn interprofessional collaboration in the group meetings.

I have adopted a qualitative research design to generate data about the students' interaction using observations and informal conversations as my method. My analysis is based on a general practice theory world view and Wenger's (1998) socio-cultural learning theory of communities of practice.

From my chosen theoretical perspective, I pursue my aim to enhance knowledge of how the students learn interprofessional collaboration in their group meetings, by exploring their interaction in terms of three research questions. The three questions are as follows:

1. How does mutual engagement in patient care evolve in students' interprofessional meetings?

2. How do the students realize the goal of interprofessional collaboration in patient care in group meetings and what do they achieve through their actions?

3. What are interprofessional student groups doing when using a narrative note in the electronic patient record to support their collaborative work and what are the consequences for the representation of patients' health statuses and care needs?

The research questions were explored in three sub-studies and are presented in the three articles of the dissertation.

4 Reflexivity, methodology and methods

According to Blaikie & Priest (2019), every researcher should work reflectively throughout the research process, in order to understand and find meaning in the knowledge and interrelationships in their research. In my view, this calls on the researcher to become aware of the choices to be made during the process and the knowledge and meanings that inform these choices. At the same time, the researcher can make the generation of the findings transparent to others (Thagaard, 2013). Here I will present the choices I made throughout my research process and the knowledge and meanings that consistently formed the basis for the choices.

4.1 Choice of worldview

According to the methodology literature, a fundamental aspect of any research process is that the researcher becomes conscious of the worldview she applies to the research. This is because every worldview includes certain basic assumptions about what reality is and how it can be recognized, which will influence the choices the researcher makes (Blaikie & Priest, 2017, p. 15; O'Reilly, 2012). Awareness of her worldview can thus help the researcher to develop the rationale for and consistency between the choices she makes throughout the process (O'Reilly, 2012).

Even before I started this study, I was inspired by the general assumptions about society and learning in communities of practice that often form the basis for the view of social reality of practice theories. Further, I chose to continue to be inspired by the same assumptions throughout the study. There were two reasons for this choice. Firstly, the view of learning on which the practice theory worldview was based was a recognized view of learning in society. It was therefore equally meaningful for me to adopt the practice theory view of learning as any other view in my quest for knowledge about interprofessional learning. Secondly, I found it interesting to deepen my own understanding of this view of learning by researching students in a learning activity based on this approach. Overall, I considered that I could add to current knowledge of interprofessional learning regardless of which view of learning I chose. The most important point was to be consistent in my worldview and view of learning throughout my research. Consistency in research helps to ensure that the knowledge developed is systematic and open to discussion, i.e. the findings can be evaluated in comparison with findings based on different perspectives (Blaikie & Priest, 2017).

4.2 Choice of research topic for the dissertation

When I embarked on this study, I was at liberty to choose my research focus. Considering the fact that research is problem solving (Blaikie & Priest, 2017, p. 7), which implies a search for answers to problematic aspects of reality, I first examined relevant literature on *interprofessional education* to find out the main research topics of the field. Here, I discovered that there was inadequate knowledge of what the phenomenon of *interprofessional learning* consisted of. As previously described, the explanation appeared to be that, while there was some knowledge of student experiences of learning collaborative knowledge and skills in interprofessional learning activities, there was little knowledge of what takes place in the learning processes that lead to interprofessional learning (Almoghirah et al., 2021; Kent & Keating, 2015; Reeves et al., 2017). This research topic aroused my curiosity, for a number of reasons. One was that I realized that I could enhance knowledge of what took place in the learning processes of the students in the study, and thus shed light on what interprofessional learning is, which was an area I was keen to be involved in. I also found it meaningful that my study could be

directly beneficial to society. Together with other contributions in the research field, it could improve learning activities in education and healthcare. A further reason was that I considered that the type of knowledge I sought concurred with the type of knowledge that I found natural, relevant and interesting to develop in order to describe and explain problematic social phenomena, based on my inspiration from practice theories. Thus, both the meaningful and the interesting aspects of this research topic made me decide to try to contribute to a deeper understanding of it. My research would therefore focus on what took place in the students' interprofessional learning processes.

4.3 Choice of research approach and logic

The literature on research design states that the approach that the researcher takes to solve a research problem must be based on the type of problem to be solved (Blaikie & Priest, 2017; Creswell & Creswell, 2018). In my case, I decided on the research problem after the literature in the field had indicated to me the knowledge needed to shed light on the problem, and how this knowledge could be developed. Knowledge of learning processes in interprofessional education was needed and qualitative studies might be preferable for this purpose (Kent & Keating, 2015; Olson & Bialocerkowski, 2014; Reeves et al., 2017; Thistlethwaite, 2012). In a practice theory perspective, producing knowledge about human learning implies focusing on and generating data on action and interaction processes between people (Nicolini, 2012), because this is where information on learning is expected to be found (Nicolini, 2012; Wenger, 1998). I therefore agreed that qualitative studies could enhance knowledge of interprofessional learning and I decided to adopt a qualitative approach.

At that point in the process, I asked myself what I wanted to accomplish with my study, as a basis for deciding which research logic to pursue. I thought that it might be meaningful and interesting to try to explain the doings of the students, based on existing theory, particularly from the practice theory understanding of learning that had already inspired me. Using abductive research logic, the researcher first creates descriptions of human activity, based on observations of what people do and say and what they say about what they do, using concepts and language that are close to the concepts and language of the people observed (Blaikie, 2007). The researcher then abstracts and typifies the actions and the reasons for them in the everyday descriptions based on theoretical concepts, which enables an understanding of the descriptions in the light of an existing theory or lays the foundation for a new theory (Blaikie, 2007; Blaikie & Priest, 2017, 2019). I found that an abductive research strategy as described by Blaikie (2007) was appropriate for my purpose, and therefore chose abductive research logic for the study.

4.4 Choice of main research question

Based on the research problem and the approach to the problem in the literature, and my choice of research logic, I formulated the main research question, which is *what health profession students do when interacting in interprofessional group meetings during joint voluntary clinical placement.*

By asking what the students do in the group meetings, I point out that the focus is on an exploration of the learning processes of the students in this study. However, by clarifying that the aim is to develop knowledge about how the students learn collaboration in the meetings, the wording may suggest that I have already decided that these students will learn interprofessional collaboration, before I have met them and generated data from their learning processes. That is only partly true. Based on a general practice theory understanding of learning, I assume that students, as meaning-seeking creatures, learn something in everything they do. They will therefore learn something about interprofessional

collaboration in interprofessional learning activities and this learning will in some way be expressed in the students' chosen actions and in the resulting patterns that emerge. But I cannot predict what these actions and patterns will be. I will therefore need to generate data about the students' actions and resulting patterns before I draw on theory to go further and try to understand and explain *how* the students learn.

4.5 Choice of data collection methods

Nicolini (2012, pp. 217-218) argues that the methods chosen for data collection in studies that draw on a practice theory perspective must be sensitive to what is said and done and the materiality that forms part of the activities. In order to be sensitive to what the students said and did, I had to place myself in a position where I could listen and watch. I therefore chose observations and informal conversations as my data collection methods, but I first had to sensitize myself to these methods. In addition to learning about the methods in general methodology literature, I also turned to ethnography, because I perceived that the type of data I needed to collect was similar to the data generated in ethnographic studies. Ethnographic studies take place in direct and continuous contact with people as life unfolds (Creswell & Creswell, 2018; O'Reilly, 2012). The methodology of ethnography shows similarities to the practice theory perspective (O'Reilly, 2012). The ethnographer assumes that the researcher can learn about people's lives from people's own perspective in their life context and develop rich, sensitive and credible stories about these lives through observations, conversations and interviews (O'Reilly, 2012, p. 3). We need to focus on the meanings that lie behind people's words and actions (O'Reilly, 2012), in order to describe interpersonal behaviour and any patterns that appear in this behaviour (Creswell, 2013, p. 92). In my study, I was to explore groups of students who had not yet established any patterns of interaction. Based on a practice theory understanding of humans as meaning-seeking creatures (Nicolini, 2012; Reckwitz, 2002), I assumed that the students would develop patterns of interaction that they found meaningful in their situation. Reading about observation and informal conversations in general and ethnographic methodology literature gave me an understanding of what I could do to see and hear what the students did and said and thus generate relevant data to help me find answers to my research question.

4.5.1 Observation

Observation as a method involves watching and listening to what is taking place between the people the researcher is studying (Thagaard, 2013; Tjora, 2012). The aim is to study reality in its natural situation, i.e. what people actually do and not what they say they do. The researcher is encouraged to be "totally open" to impressions and collect data on physical setting, participants, roles, tasks, interaction, procedures, interpretations, repetitions, duration, phases and stages and the subtleties of the situation (Tjora, 2012, p. 62). However, according to Madden (2017), reality is far too complex for the researcher to notice everything, even if she uses technology. What the researcher observes will also be influenced by her own view of reality (Madden, 2017; O'Reilly, 2012). Observations are therefore never complete, but they can be disciplined by limiting them to apply to two main areas: *what* and *where* (Madden, 2017). This means that the researcher focuses systematically on people's doings and sayings in different activities, thus their behaviour, and on physical structures in and around the activities (Madden, 2017; O'Reilly, 2012). I considered that these two main areas were consistent with the focus areas that practice theories point out as meaningful in human life, and therefore meaningful to explore in studies of social phenomena. Therefore, since I had already been inspired by practice theory, I found it natural to define behaviour (sayings and doings) and materiality

as key terms in my observations of student learning processes. Information on *who*, i.e. which student(s) demonstrated the behaviour observed would naturally be recorded along with *what* was said and done.

However, O'Reilly (2012) states that the observations a researcher makes at the beginning of a study will be less detailed than those she makes later, because the situation will be new to her. This makes it important that the observations take place over time (Creswell, 2013; Madden, 2017; O'Reilly, 2012); in this way, the researcher will also be able to detect patterns and changes in the activities observed. This may involve information about how one thing leads to another, which could provide answers to *how-questions* (O'Reilly, 2012). My limited ability to observe details in my early observations might mean that I would be unable to capture important information in the students' interaction at the beginning of the practice period. This would be information that was unique to this stage of the interaction but related to later stages. At the same time, it could mean that during the practice period, which for each group of students lasted only two weeks, I might not be able to develop the ability to capture "all" the details that could be important for the interaction. However, from a practice theory perspective, I assumed that both the students and I, as meaning-seeking creatures, would continuously negotiate meaning in interaction with those around us to determine our actions throughout the practice period. Further, I expected the students and myself to develop our understanding and the basis for our actions during those two weeks. The value of the observations and my understanding of the students' development over the two weeks, and any patterns I could describe in the results, would in any case provide some information. Then it would be up to the reader of my results to determine the value of my research. All I could do was to decide to be as focused as possible during my observations and to record them in as much detail as possible from the very beginning.

In order to collect observational data that can answer the research question, the researcher must choose a suitable time and place for the observations (Blaikie & Priest, 2019; Tjora, 2012). I noted that the leader of the project I was a member of wanted to allocate two groups of students to two healthcare facilities in the same geographical area and planned to do the same with later pairs of groups. I therefore saw an opportunity to generate data from altogether six student groups in three pairs. The groups were to be present in the healthcare facility on the day shift from Monday to Friday during the two weeks of the practice period, which was thus when I had to observe them to see and hear what the students did when they collaborated in an interprofessional manner. However, I also had to decide in which settings I wanted to observe students. I did not know what any of the groups would do during their practice, as the students were going to decide for themselves. During the first round of observations, I therefore decided to ask the students if I could observe them in group settings, but not with patients. I assumed that this type of setting would reveal what they were talking about and chose to do in their interprofessional collaboration. I also decided to pragmatically move between the two groups on a daily basis, based on the meetings that the groups themselves had planned. However, I also allowed for the fact that my experience from one practice period could then form a basis for making new decisions about the time and place for my observations in the next period, which in fact happened.

My experience from the first round of observations was that the groups chose to meet once or twice a day. Some meetings were regular, but not all, and the times of the meetings could vary from day to day and at short notice, while the length of the meetings also varied in both groups. This made it very complex and stressful to observe both groups every day for two weeks. In addition, the meetings in the

two groups could take place at the same time, which made me constantly feel that I was missing important information in the group I was not observing. Further, I was unable to observe any possible continuity between meetings on the same day in some of the groups. Moreover, there was often little time to write detailed notes from both groups when their meetings closely followed one another. In the second round of observations with two new student groups, I therefore decided to shift between the groups on the first day to observe what the students were interested in talking about, and I would do the same on the final day of the practice period. During the period I would only observe one group per day, if they chose to meet as a group. The students in this round also decided to meet as a group once or twice a day. My experience from following only one group per day was that my work became better organized and less stressful. Yet I still felt uncomfortable at generating too little data, as I was unable to produce data in all the meetings across the groups. I therefore decided to compensate for this loss by asking the groups to tell me what they had done since my last observation of them and by asking follow-up questions based what they said. The continuity and lack of stress I gained by following a single group for a whole day provided me with the energy to pursue my curiosity related to the students' work with patients, which they talked about in their meetings. Therefore, in the third and final round of observation of the last two student groups, I decided to apply to the regional ethics committee for permission to accompany the students to their work with patients, if the students and the patients themselves consented. By expanding the types of activity to observe in the group I was following, I became busy once again. However, I still decided to try to observe at least once all the different types of student activities where there was more than one student with patients. These could be one case of provision of personal care, one physical exercise session, one conversation with the patient and family and/or activities with patients involving different combinations of students.

4.5.1.1 Informal conversations

A particular feature of ethnographic observation is that the researcher is a participant observer (Madden, 2017; O'Reilly, 2012). This implies that the researcher, overtly or covertly, tries to immerse herself in the activities or culture she is exploring, in order to try to understand what is happening and what it means (Creswell, 2013; Madden, 2017; O'Reilly, 2012). Therefore, the researcher talks to the informants, asking questions about what she sees and experiences at various points (O'Reilly, 2012). These are everyday informal conversations and questions; however, the researcher is usually not a natural part of the group that she is researching, which both she and the informant know, and even the ethnographer (Madden, 2017). The conversations that the researcher initiates will therefore never be completely natural everyday conversations, but always have an instrumentality, because the researcher is "hungry for data" (Madden, 2017, p. 65). The researcher must therefore be careful not to be too intrusive in these informal conversations, and instead plan interviews if she wants to ask very demanding questions.

Although I would not be a participant observer, i.e. I had no intention of taking part in the actual development of the students' interprofessional collaboration, I had a strong desire to talk to the students about what they did during the process. I wanted to ask them to explain the meanings behind their statements and actions and the connection between various activities that they initiated. Clearly, my informal conversations with the students would then be instrumental. However, I did not want my questions to interfere with the students' focus and flow in the development of their interaction and the activities they formulated. I therefore concluded that I would be careful about asking questions while the students were in the "flow" of various activities. Instead of interrupting, I would note down

comments and actions that aroused my curiosity, so that I could repeat them to the students and ask them to elaborate when the activity was completed.

The language used by the researcher and the informants will affect the possibility of achieving an understanding of each other, even when they have the same mother tongue (Madden, 2017; O'Reilly, 2012). In my case, I assumed that I had a good chance of being able to understand the meaning of the students' everyday conversations, professional conversations about patients' situation and their interprofessional collaboration, both by listening to the talk between the students and to their explanations in the conversations with me. My reason for this assumption was that from a practice theory perspective I understood myself and the students as members of the same society and as professionals in a health field, and therefore as individuals who shared cognitive and symbolic structures of knowledge. We would therefore presumably interpret the world in collective ways. This meant that I could understand much of what the students talked about when they discussed patients, examinations and the healthcare service they were part of, and when they told me what they did and why. But researching in a familiar context involves the risk that the researcher thinks she understands other people's motives. For this reason, I decided to briefly outline my understanding to the students, when I became unsure about the explanations, they gave me of their doings and sayings in different situations, to enable them to correct my understanding. However, as a human being and researcher, the researcher does not always realize that she does not understand. I thus decided that the best approach was to be critical of my own understanding of what the students were doing and ask them too often rather than not often enough.

But at the same time, I assumed that in fact the students may not have understood the meaning of my activities as a researcher, because they had perhaps never previously participated in any form of researcher education or research activities. Such a situation may negatively affect the relationship between the researcher and the researched from the outset and prevent the researcher from making good contact with the people she wants to observe (Madden, 2017; O'Reilly, 2012). I would therefore make an effort to tell the students in everyday language about the research question, the focus of my research and the methods I would use, including when I talked to them and asked questions during the practice period.

Apart from the language aspect, the researcher cannot escape from who she is as a human being and how she affects the people being researched (O'Reilly, 2012). Dress and behaviour both affect the relationship (O'Reilly, 2012). I decided to dress nicely but not pretentiously, in order to fit in with the everyday healthcare setting. In my behaviour, I decided to show the students clearly that I was interested in them, both verbally and non-verbally. At the same time, I made it equally clear that I did not take it for granted that they would allow me to be present and observe. However, the researcher is also part of the situation as a human being with emotions and therefore reactions. I remembered from my own time as a student and healthcare professional how the everyday atmosphere could often suddenly change between great seriousness and hilarity. The question was how far I as the researcher ought to let myself be carried away. I came to the conclusion that it would be difficult and unnatural not to show facial expressions appropriate to the situation, and that being part of the situation did not affect the observation itself or the subsequent analysis. By contrast, it could have a negative effect on the participants if my facial expressions were unsuited to the situation.

4.5.1.2 Recording the observations and dialogues

In the methodology literature, the researcher's notes of observations are treated as part of observing (Tjora, 2012). The researcher is encouraged to be open and record everything that is relevant in the observations (O'Reilly, 2012; Tjora, 2012). However, it is neither intellectually nor practically possible to do so (Madden, 2017; O'Reilly, 2012; Tjora, 2012). Firstly, it can be difficult to notice everything that is relevant, especially when the researcher is new to the field (O'Reilly, 2012). Secondly, what is relevant is a matter of judgement (O'Reilly, 2012), which therefore contains a subjective element (Madden, 2017; Tjora, 2012). Thirdly, constantly noting down observations can be so demanding that it diverts the researcher's focus from what is being observed (O'Reilly, 2012; Tjora, 2012). Yet the researcher cannot rely too much on memory, and observations must therefore be recorded in one way or another, during or immediately after the observation (Madden, 2017; O'Reilly, 2012; Tjora, 2012). This requires the researcher to develop a strategy for recording observations (O'Reilly, 2012).

I knew that I wanted to observe the interaction in the student groups, but I did not know in advance the activities the students would initiate during their practice period in any of the rounds of observation. As mentioned, I decided that I would first ask to observe when the students came together to talk as a group, if they decided to do so. Such situations involving several people present are particularly difficult to observe and record (Tjora, 2012). I therefore realized that it would be a very complex task to note down observation notes during student group discussions. My strategy was therefore to support my memory and my written notes with audio recordings, as long as the students accepted this, to enable me to listen to the interaction between the students afterwards. Listening could help me to discover new details of the students' interaction that I was unable to observe or to remember while observing them or had not written down. This decision naturally led to the acquisition of an audio recorder.

In taking written notes, the researcher can be pragmatic and choose between two strategies (Tjora, 2012, p. 63). One is to note down the most notable elements in the situation, while the other is to take as complete notes as possible. In the first round of observations with the first two groups, I decided to take as complete notes as possible when the students were in a group, although I also used the audio recorder. They found the idea of recording the sound a little unnerving but agreed to it and forgot about the recorder after a while. However, when I started taking notes, it immediately caught their attention and they glanced at my notebook, and it affected the flow of their conversation. They seemed to be unsure of what I was noting down and why, and they confirmed this when I asked them afterwards. It is not unusual for the people being observed to be disturbed by the note-taking, and sometimes the situation can be solved by the researcher placing herself outside their immediate field of vision (Tjora, 2012). I did not have the opportunity to do this, as the rooms the students used were often arbitrarily chosen and so small that my presence was clearly visible anyway. I therefore decided to put away my notebook to allow for a more relaxed conversation between the students and tried to remember the most prominent elements of the interaction and write these down after the observations. I also memorized where the students sat in the room and objects that seemed relevant to the students during their interaction. I also decided to do this in the following two rounds of observation with new groups of students.

I generally assumed that it would not always be appropriate or possible to ask there and then about things I was unsure of during my observations of student activities. An example would be when they

discussed a patient's condition. This might have interfered with the flow of the interaction, or because there was no time to ask immediately afterwards, because the students had to hurry on to other activities. I decided to memorize statements and actions that I wanted the students to elaborate on, write down key words following their conversation and make agreements with the students to talk to them at times that suited them. In these follow-up conversations with students, I decided to make audio recordings, because I expected that they could be as rich in information as meetings are generally considered to be.

I also took into account the fact that spontaneous conversations could occur between myself and one or more students outside any planned meetings and activities that I observed in the groups. I considered it that in such contexts it would be unnatural to use the audio recorder, which might then disturb the development of the conversation. I therefore decided that I would never make audio recordings in such settings, but instead write down my observations as completely as possible afterwards.

Observation notes often contain not only the researcher's observations but also her reflections and interpretations there and then (Madden, 2017; O'Reilly, 2012; Tjora, 2012). These notes may be superficial and will therefore need to be supplemented later in the day, or more detailed, depending on the time available to the researcher during or immediately after the observation. In either case, the researcher's notes will have to distinguish between her description of the situation observed and her thoughts about that situation (Madden, 2017; O'Reilly, 2012; Tjora, 2012). I decided to collect all my notes in the same notebook and create a system for note-taking. I would write notes every day and take notes during observations and immediately afterwards if possible. My reflections, interpretations and any questions I had that arose during an observation would be put in parentheses in the text to separate them from the description of the situation I observed. In the notes I made following an observation, I wanted to separate clearly my description of the situation and my own thoughts about the situation by putting brackets round my thoughts. However, the descriptions made during an observation or shortly afterwards often turn out to be somewhat chaotic (Madden, 2017; O'Reilly, 2012; Tjora, 2012). I therefore decided that every evening I would read through my notes and supplement my descriptions where necessary by using symbols in the text that corresponded to additional texts with the same symbols following the notes. Afterwards, I would examine my own spontaneous thoughts about what I had observed during the day and note them down and any questions that arose in a separate section.

4.6 Participants

People recruited as informants in a study must be relevant to the research question to be answered (Tjora, 2012). Those involved were healthcare professional students who were to participate in a novel type of practice where interprofessional collaboration was the main focus, and they were therefore highly relevant informants for my study. In fact, I did not actually recruit the students, but I recruited myself to study precisely these students, at the moment when I chose my research topic. The students were recruited through their programmes of study. No more students applied than there was room for, and the organization of the programmes made it impossible to recruit students from all the programmes in all three periods. For some students, the interdisciplinary practice was part of their usual practice programme, while for others it was separate.

4.6.1 Ethics

Since my research was to be linked to a given project in which a new type of practice was to be tested, it was included in a joint report to the Norwegian Centre for Research Data (NSD) on data collection and research in the project "Interprofessional Collaborative Learning in Health Professional Education" in the Faculty of Health Sciences of UiT The Arctic University of Norway, which was submitted by the project manager before I began my PhD (Appendix 1). In Approval No. 34895 of July 2013, NSD confirms that the requirements for the processing of personal data are met, based on the description in the report (Appendix 2). I have followed the requirements for personal data processing in this study. NSD also required a revision of the information letter related to obtaining consent from the informants to better satisfy the conditions of the Personal Data Act. The revised information letter (Appendix 3) was approved on 10 September 2013 (Appendix 4). The project manager clarified in a telephone conversation with the case officer in NSD that there would be no data collection in the presence of patients. Further, a written presentation of myself and my study of student interaction was to be displayed on the wall in the nurses' stations in the wards involved in the project (Appendix 5). This presentation was put up before I arrived.

Students involved in the practice period were already informed at the time of recruitment that research would be conducted that included their activities, if they agreed to this. An information leaflet on the purpose and form of the research was distributed. All students on practice during the period gave oral and written consent to study participation.

During the third and final practice period, an application for an exemption from the confidentiality obligation was sent by the project manager to the Regional Ethics Committee for Medical and Health Research (REK) (Appendix 6) to cover observations of students' interactions with patients. In its response, REK concluded that the application fell outside the scope of the Health Research Act, but required that patients and relatives be informed about the project and the presence of the PhD student (Appendix 7), which could be done by putting up a notice or in another suitable way. I followed up the requirement with an information sheet that was displayed in the patient areas on the wards (Appendix 8). Further, it was up to the patients themselves or their relatives to consent to the researcher's presence and observation of students' activities with them. Here, the ward managers provided information about my study and obtained consent from the patients for whom the students would be responsible, or from their relatives, before the practice period. In Approval No. 2014/1659, REK confirmed that the requirement was considered to have been fulfilled and final approval was thus granted (Appendix 9). In addition, when planning to observe students in patient activities, I always asked the patients if they accepted my presence and reminded them of the possibility of refusing or withdrawing their consent. No patients or relatives refused and none withdrew their consent. However, in one case I discontinued myself, because after commencing two observations involving the same patient, I found that the patient non-verbally expressed scepticism about my presence. Since the patient had severe dementia, consent for me to observe had therefore been given by relatives to the ward manager before the start of the practice period.

4.6.2 Access to participants

My work to gain access to the students took place in two stages. The first stage was in the above-mentioned recruitment process for participation in the practice period. The second stage was when I informed the students about my research on the first day of the practice period. I outlined the research problem and expressed a desire to find out what the students decided to do in order to achieve

interprofessional collaboration. I also informed them that they were at liberty to decide at any time whether or not to allow me to generate research data by observing them at work and talking to them about what they did, in addition to their right to withdraw any consent they had given and have their personal data deleted. The students told me that they knew that research on their activities was generally desirable; some had qualms about being observed while others found it exciting to be able to contribute to research. All students chose there and then to consent to participation.

I did not feel that I had true access to the students until they specifically agreed to participate in my study. But I still wondered how I would be able to fit in practically with the students' activities. I therefore decided to inform the students that I would be in the ward in the morning to hear what they were going to do and if I could join any of this. It turned out that all the groups started with an introductory meeting where they read the information available on the patients they were responsible for and what they had found out in the first meeting with the patients, and they continued to hold these group meetings throughout the practice period.

I asked to attend the first few meetings, after which the student groups themselves took the initiative to keep me informed about their upcoming meetings to enable me to observe them. Sometimes they invited me to attend their meetings on a regular basis. No students refused to allow me access and none withdrew their consent. I do not know if students at any time failed to inform me of their meetings, but they occasionally expressed regret that they had forgotten to ask me to attend meetings that had arisen spontaneously. They also sometimes said that it was a pity that I could not observe them in a particular meeting that had clashed with my observation of the other group, because they thought it would have been particularly interesting for me attend their meeting. Further, the final two groups of students I observed were also always willing to let me observe their activities with patients. My interpretation was thus that the students had a positive attitude to my observations of their work.

4.7 Data collection

Although the researcher gains access to the people she wishes to observe, she will not necessarily achieve the position she wants in relation to those people (O'Reilly, 2012; Thagaard, 2013). Further, it can have a negative effect on the people if they find that the researcher knows either a great deal or very little about what they are doing (O'Reilly, 2012). I chose to tell the students that I had been a nurse and a teacher of nursing and had therefore general knowledge about healthcare services and thus the context of their work. I added that in no way would I or should I judge the quality of their patient care, because that was neither my focus nor my concern. My focus would be on collecting information about what they did in order to achieve interprofessional collaboration, which both I and other researchers wanted to learn more about. I may thus have influenced the collaboration that the students developed, because they were particularly focused on how they collaborated and wanted something to show me. However, I was surprised at how soon the students included me and accepted my presence in their meetings. They found it a little strange to have me sitting there at first, but forgot about me when they started to discuss patients. This may suggest that the collaboration that developed between the students would have developed without my presence.

The observations themselves turned out to be just as complex as described in the methodology literature. I was glad that I had decided to be as alert as possible from beginning to end in the two busy weeks I spent in each of the three rounds with student groups in practice. However, I was particularly pleased that I had decided to use an audio recorder in all the meetings I observed, which meant that I

could listen to the dialogues between the students several times afterwards. Their discussions were rich in information and could continue for longer than expected. So despite the fact that I was making every effort to be alert, it would have been quite impossible to note down quickly enough everything expressed verbally and non-verbally during the discussion. Even when I had decided to note down only the most prominent elements, I experienced what Tjora (2012) describes as drowning in impressions, because it was difficult enough to decide what was most prominent in the situation as the students were new to each other and had not yet established any interaction patterns. Everything therefore seemed to be noteworthy. However, I soon realized that I was not even going to note down the most prominent elements, because it became clear at an early stage that my writing disturbed the students. In any case, I realized that I would have been unable to write down all the details afterwards if I had decided just to observe and not record the sound. The audio recordings not only enabled me to listen to the students' discussions again, word for word, but also to recall the general mood of their talk and the emphasis they placed on various statements. This is precisely the strength of both audio and video recordings (Tjora, 2012).

With regard to note-taking, O'Reilly (2012) recommends that the researcher take notes at the slightest doubt as to whether something should be noted down. This recommendation became relevant not only while taking notes after observations, but also after taking the notes, because I constantly came up with new elements that I had forgotten to note down. This experience illustrated how difficult it would be to write down everything observed during an observation, because the researcher needs time to bring all the details of the observations into consciousness, in order to be able to write them down. At moments when new things popped up in my memory, it was tempting to think that these fragments of memory could remain there and be written down later. However, I soon learned that new fragments from the observations would keep popping up and that the fragments to be remembered would rapidly accumulate. My decision to keep in mind the importance of being alert helped me to overlook my "note-taking fatigue" of the moment and to continue to take notes. The production of notes is therefore not complete until nothing more pops up in one's memory. I also found that notes are especially imprecise at the beginning of an observational study, which agrees with O'Reilly's (2012) description. As I gained more experience in observing and taking notes, my notes became more detailed from the beginning, which meant that I no longer had to stay up late constantly adding new fragments of memory.

Ideally, the researcher's observation notes should be objective, i.e. they should report in a neutral language what she is able to perceive (Madden, 2017; O'Reilly, 2012). At the same time, the observations of the researcher will also contain some adjectives that she finds it necessary to include (Madden, 2017). However, this is a tricky task, because it adds certain subjective values to the observations (Madden, 2017, pp. 103-104). Adjectives can certainly be used as long as they are noted down separately (Madden, 2017). The question is rather how the values represented by the adjectives are dealt with in the subsequent research process and in the final textualization of the research. I found it challenging to decide which adjectives to include. It was not difficult to include adjectives such as "long" about a meeting that continued for 90 minutes if most other meetings took 40 minutes, because that was a reasonable assessment of the time relationship between the meetings. However, it was more difficult to use adjectives that described, for example, the tone of voice and body language of the students, which had meaning in addition to the words spoken. If I did not to use words such as *cautious* or *gentle* to describe voices in the dialogue and only report the basic meaning of the students' statements, *caution* and *gentleness* as natural and effective dimensions of human interaction and

cooperation would disappear as information. As a researcher, I would then not report all the information contained in the observation, due to the risk of adding subjective interpretations. It seemed unreasonable not to describe voices with adjectives that would be natural in the everyday culture of the students and myself. On the other hand, it is quite a different matter to explore the reason why particular voices were cautious or gentle in certain situations. According to O'Reilly (2012), observations made by the researcher must at all times be analysed in relation to the entire context, to enable the researcher to learn about the people and the relationships involved. This would entail a focus on adjectives related to tone of voice or body language, because they formed part of the information about how one thing led to another and was related to the whole. I therefore decided to use adjectives to describe voices and facial expressions, but not to draw hasty conclusions about what they meant until I had moved on to analysing the whole. In this way, I could also supplement the information in the audio recordings, which obviously could not include facial expressions and body language.

4.8 Data analysis

Qualitative data analysis can be described as a constant search for "concepts and themes, that when taken together, will provide the best explanation of what's going on in an inquiry" (Srivastava & Hopwood, 2009, p. 77). The analysis therefore requires the researcher's intellectual capacity and creativity, which implies intense thinking, sensitivity and systematic work (Tjora, 2012, p. 174). The researcher is seeking the answer to a question that he has in his consciousness (O'Reilly, 2012; Srivastava & Hopwood, 2009), and which he wants to develop knowledge about and communicate to the reader (Tjora, 2012). In my study, I wanted to find out what the students did in order to work interprofessionally in relation to certain patients.

In research, it is generally recognized that the analysis starts as soon as the researcher makes the first observation (Madden, 2017; O'Reilly, 2012). From a practice theory perspective, this makes sense because people are assumed to be in continuous negotiations of meaning with the outside world in order to realize the life goals they have set for themselves (Nicolini, 2012; Reckwitz, 2002; Wenger, 1998). This also applies to the researcher. Further, the unique aspect of qualitative research is precisely that concepts, ideas and theories emerge during data collection (Blaikie & Priest, 2019; O´Reilly, 2012). However, another feature of qualitative research is that it does not permit preconceptions about the social phenomenon being observed, while ideas that immediately emerge during data collection must not be adopted too early (Blaikie & Priest, 2019, p. 210). This appears to be contradictory if it is recognized in research that the researcher will be influenced by some theoretical perspective (Blaikie & Priest, 2017; Creswell & Creswell, 2018; O'Reilly, 2012), as I have previously mentioned. It is therefore difficult to imagine that the researcher could entirely bracket her own interpretation of her interaction with the outside world only when collecting data. I therefore believe that it is reasonable to assume that the search for concepts and themes that can provide the "best" explanation, and which starts in the early stages of data collection, will be based on the researcher's worldview, whether she is aware of it or not. I therefore draw on the understanding of data analysis of Srivastava & Hopwood (2009, p. 77), which is that patterns, themes and categories do not emerge from the data by themselves, but are brought forth by what the researcher wants to know and how the researcher interprets the data based on certain theoretical frameworks, subjective perspectives, ontological and epistemological positions and intuitive understanding.

As previously mentioned, my worldview was inspired from the very start of this study by general assumptions about society and social interaction that can be said to apply across practice theories. However, I did not have a clear idea of the differences between the practice theories, and I did not know all the theories that could be categorized as practice theories. Nevertheless, my worldview provided the framework for my search for theoretical concepts that could help me to understand the observations I made of interaction between the students. It is therefore correct to say that my search for concepts and themes that would provide the "best" explanation was motivated by what I wanted to know and was based on a theoretical framework, subjective perspectives, ontological and epistemological positions and intuitive understanding.

4.8.1 Analysing during the observations

Observations were conducted in three two-week periods over 13 months. Everything the students did in all the groups was noteworthy for me for the first days, because it was also new to them, and thus important data for me. However, the focus of the analysis in this dissertation began to emerge already during the round of observations of the first two student groups. After only observing their group meetings for a few days, I found that there was little new information to note down and began to wonder why I had this experience. I had been interested in noting down who was present, who did what (sayings and doings) and physical structures. The main features I observed were that all the students attended the meetings, they were all very friendly and considerate, they all shared all the information they had about each patient and they jointly decided on the care one or more students would provide to patients. What the group decided to do was recorded in logs or worklists. I thought that I might have become blind to the information available in the meetings and that the lack of new information in my descriptions might be because I had become used to observing or understanding the actions in the meetings in a certain way. I therefore decided to be more focused in my attention again and be more critical of my observations and descriptions.

As I continued my observations, however, I realized that the pattern was repeating itself and that I was unable to describe what I observed in different ways from before. My observations were somehow unable to take in further new, noteworthy details that could alter the main features of the students' interaction in the meetings. This was an eye-opener for me. I acknowledged there and then that the most striking feature of all was that the students actually established a regular dialogue with each other about patients during the first days of the practice period. This dialogue was expressed as meetings, with the form and content realized in the meetings. I also noticed that the students talked about the meetings in positive terms during the practice period, both in their meetings and in informal conversations with me, and that at the end of the practice period they described the meetings as having given them the most powerful experience of interprofessional collaboration. Despite my realization, I did not proceed with the analysis. Instead, my openness in relation to what the students would do to perform interprofessional work during their practice period was the "right thing" in order to avoid hastily written descriptions and it would keep me constantly alert. Further, instead of "embracing" the opportunity to begin to see a pattern, I "fought" it in order to avoid mere self-confirmation. I did not know whether I would ultimately try to describe and explain features common to all student groups or those unique to a single group in my later choice between parts of the data to analyse.

However, the question of what was actually taking place in the meetings began to "grow on me" through the next two rounds of observation with the last four groups of students, because I found that the same pattern developed in these meetings as I had observed in the first two groups. The students

began to meet regularly, they discussed the patients, decided how to provide care to them singly or together and wrote down what they would do. They were friendly and considerate of each other; during the practice period they described the meetings as necessary and at the end they stated that the meetings were where they had achieved most interprofessional collaboration. In the last round of observations, I wrote the following to myself in my field notes under the heading "Self-reflection":

"Am I a superficial researcher? I've been to lots of student meetings and I find that they take the same form. Is my ability to listen, wonder and discover superficial? " (February 2015).

At the end of my data collection, following the last round of observations, I had to decide on which parts of the data to analyse in order to develop knowledge about interprofessional learning. I was inspired by Nicolini's (2011) concept of the "site of knowing". This refers to the way learning takes place continuously, and thus occurs at any time and place; studies of learning can therefore be limited to given periods or contexts. By this time, the students' comments on the importance of group meetings had sunk in and aroused my curiosity. I therefore chose to define the meetings as *the site of knowing* that I wished to explore.

4.8.2 Processing the data

In order to find out what the students were discussing in the group meetings, it was natural that the main source for the analysis would be the audio recordings from the meetings and my informal conversations with the students about what took place in the meetings. The notes I had made after the meetings supported the audio material, because they provided information about what led up to the meetings and the students' facial expressions, body position and position in the room during the meetings, which were naturally lacking in the audio recordings. The data from the six student groups were taken from 24 group meetings and 12 informal conversations with me of various lengths, giving a total of about 35 hours of audio recordings.

Two meetings from each student group were transcribed with the aim of creating codes. The students' statements were transcribed chronologically with space for coding line by line.

The notes from observations were not processed further.

4.8.3 Analysing the data

In order to analyse the data to determine what was taking place between the students in their meetings, I first needed to find out what the students were discussing or negotiating because in a practice theory perspective, I understand human interaction as negotiation of meaning about something that will move people towards a goal, even though the people may have different ideas of the goal. I therefore decided to use the practical iterative framework for qualitative data analysis (Srivastava & Hopwood, 2009), because this model assumes that qualitative research has an agenda and that the researcher is influenced by theory. As mentioned above, this implies that the basis for the analysis is the researcher's desire to know something specific and her interpretation of the data based on a given theoretical framework, subjective perspectives, ontological and epistemological positions and intuitive understanding (Srivastava & Hopwood, 2009, p. 77). At the same time, the model gave me a concrete tool that could help me to systematically develop my deeper understanding of what was taking place between the students, since the model provides three questions that the researcher can ask the data in

chronological order and in several rounds, to refine her understanding of it (Srivastava & Hopwood, 2009, p. 78). The questions are as follows:

1) What are the data telling me? This question is aimed at clarifying the researcher's perspective based on theoretical, subjective, ontological, epistemological and field understandings.

2) What is it I want to know? This question aims to link the subjective perspective to the research objective.

3) What is the dialectical relationship between what the data are telling me and what I want to know? This question is intended to refine my focus by identifying gaps in my understanding of what is taking place to allow me to return to the data with clear insight and start the analysis again from the beginning with the first question.

In the systematic analysis of the data, I employed an abductive research logic, where, in Blaikie & Priest's (2019) terminology, I first adopted a *low stance*, followed by a *high stance*. That meant that I first tried to stay close to the everyday language, concepts and meanings used by the people I was researching, in interpreting and coding the data based on the first question in the practical iterative framework, namely *What are the data telling me*? I then formulated abstract concepts and meanings from my coding of the everyday language, based on my theoretical perspective, in interpreting and coding the data based on the second question in the framework, which is *What is it I want to know?*

However, even when the researcher takes a low stance in the first coding of the data, I believe that she will be influenced by her perspective, consciously or unconsciously. In my analysis, the practice theory perspective influenced me in that I focused on both what the students said and what they did in the meetings. This meant that I aimed to code not only the content of the students' comments, but also what they did when they spoke. I would generate codes about the types of utterances, such as *questions, answers, references, additions, explanations* and *suggestions* and about how they spoke, such as in a mild, eager or worried voice, saying "mmm" or laughing, in addition to codes about the thematic content of the students' statements, such as *the patient, test results* and *a new meeting*. I could also code the general behaviour of the students in the meetings based on my notes, such as: *arrived, sat facing each other, looked at each other when they spoke, made gestures, stayed until the end of the meeting, etc.*

During the low-stance coding of the transcribed material, text fragments and lines were interpreted several times and given initial everyday language codes by underlining them in colour or using a symbol. The colours and symbols were explained in a code list. Fragments and lines that I felt dealt with the same phenomenon were highlighted with the same colour or given the same symbol in the text within and across meetings. The creation of new codes continued until I felt there was saturation of the categories I could use to describe the data. I also coded my observations of the students' behaviour in the meetings, which I took from my notes. While coding the text, I regularly listened to the audio files, in order to double check and adjust my interpretation and choice of introductory codes. When I considered that I had completed my coding of the transcribed meetings, the codes were compared across meetings. The audio recordings from the meetings that were not transcribed were then listened to repeatedly and compared with the codes in the transcribed material. Following this, the relationships between different codes were reinterpreted several times and reconstructed as categories of doings. For example, the codes *arriving at the start of the meeting + leaving at the end of the*

meeting were reconstructed as doing in the form of *presence*. To give another example, the codes *patient + examination + suggestion* were reconstructed as doing in the form of *making a suggestion based on opinions presented about a subject discussed*. These categories were inserted in the first column of a table (Appendix 10).

I now adopted a high stance in the analysis. Since I consider human interaction as negotiation of meaning, I wanted to know what negotiations took place between the students in the meetings. Based on the second question in the practical iterative analysis framework, namely *What is it I want to know*?, I formulated what I wanted to know and asked *What negotiations are taking place in the students' doings?* The categories of doings now represented elements in negotiation about something and I wanted to find out the main topics of the negotiation. After a new round of interpretation, where I repeatedly moved back and forth between the question, the categories of doing that I had created in the low stance analysis and the understanding that doing is negotiation of something, I developed examples of typical topics of negotiation in the students' meetings. These were inserted in the second column of the table (Appendix 10).

I now asked the third and final question in the framework, which is *What is the dialectical relationship between what the data are telling me and what I want to know?* I began a new round of interpretation where I moved back and forth between the two preceding questions and the codings, but still with an understanding that the students' sayings and doings were negotiations about something, in order to find out what was taking place between them. I concluded that the students were continuously negotiating collaboration between themselves in the present and in the future, in terms of both the interaction itself and patient treatment.

This result initiated further reflection on the observations I had made in and around the student meetings and I began to study the practice theories more closely to find out whether the concepts used in any of the theories could help me understand the basis for the collaboration negotiation that took place in the meetings. Lave & Wenger's (1991) concept of communities of practice and Wenger's (1998) sub-concepts of mutual engagement, joint enterprise and shared repertoire struck me as important. The concepts seemed to make something in the students' negotiation on present and future collaboration fall into place for me. This experience initially made me sceptical and led me to start intuitively moving back and forth between the examples of negotiations that I had already developed and Wenger's (1998) descriptions of the sub-concepts. However, my perception that these concepts could provide a meaningful lens to describe what was taking place between the students only became stronger, even though I could not fully explain it in detail. Yet it should be remembered that theorizing is not a matter of following a specific procedure (Hammond, 2018; Swedberg, 2012), whether the researcher herself develops theory or uses another's theory (Swedberg, 2012). The researcher will draw on her own resources, ideas and expertise while concentrating on the phenomenon under study, and her thinking will be intuitive, random and logical (Hammond, 2018). During this process, the researcher will move back and forth between the data and the relevant theoretical concepts, and transfer and adapt concepts to the data; in this way, she may experience sudden breakthroughs where everything fits into an overall idea (Hammond, 2018).

I therefore decided to use each of Wenger's (1998) three sub-concepts as a basis for a sub-study of the negotiations between the students and to present these sub-studies in separate articles of the dissertation. This does not mean that I believe that the concept of communities of practice is the only idea that can be used as a basis for the analysis, or that can provide a comprehensive picture of what

was taking place between the students. However, I feel that the concept of communities of practice could serve as an overall vantage point and the sub-concepts as lenses that could help me to capture and describe the students' sayings and doings in their meetings and thus provide a basis for interpreting and understanding what they did to achieve interprofessional collaboration. In all three sub-studies, the first two questions in the Practical Iterative Framework for Qualitative Data Analysis (Srivastava & Hopwood, 2009) were formulated on the basis of the sub-concept of each sub-study. In each sub-study, the third question in the iterative framework was formulated on the basis of the results of the two preceding questions, as outlined in the framework. For the order of questions in the different sub-studies, see Appendix 11.

4.8.4 Example of an analysis from Sub-study 1

In the first sub-study, my starting point was the result of the analysis of what the students negotiated in the meetings, which I have described above. The result was that the students seemed to be in continuous negotiation of their collaboration now and in the future, both in terms of the interaction itself and with regard to patient treatment. The negotiations in the meetings were thus at the same time about the students' engagement in patient treatment. I now wanted to explore the question *How does mutual engagement in patient care evolve in students´ interprofessional meetings?*, basing my analysis on Wenger's (1998) concept of *mutual engagement*. The analysis described above was thus supplemented with a new round of analysis. The first iterative question in the Practical Iterative Framework for Qualitative Data Analysis (Srivastava & Hopwood, 2009), *what are the data telling us*, was reformulated as two subsequent questions: *What mutual engagement evolves in the students´ negotiations in interprofessional meetings?* and *How do the students make mutual engagement possible in the meetings?* The condensed negotiations from the previous analysis were interpreted and reconstructed into categories of mutual engagement (Appendix12). Then the second iterative question was reformulated as *What are the relationships between the different types of mutual engagement evolving among the students in the interprofessional meetings?* and the categories of mutual engagement were interpreted and reconstructed into three main types of mutual engagement (Appendix 12). Finally, the question *What is the dialectical relationship between what the data are telling me and what I want to know?* was asked, which led me to conclude that the students' mutual engagement in patient care seemed to be becoming highly complex.

5 Results

The research question of the study presented in this dissertation is *what health profession students do when interacting in interprofessional group meetings during joint voluntary clinical placement*. This is revealed with the help of the results of the analyses conducted in the three articles of the dissertation.

5.1 Article 1

Gudmundsen, A.C., Norbye, B., Dahlgren, M.A. & Obstfelder, A. (2019). Interprofessional student meetings in municipal health service: Mutual learning towards a Community of Practice in patient care. *Journal of Interprofessional Care*, *33*(1), 93-101. https://doi.org/10.1080/13561820.2018.1515732

The main research question in this article is: *How does mutual engagement in patient care evolve in students' interprofessional meetings?* The analysis is based on field notes and audio recordings from twenty-six meetings with six interprofessional student groups and an informal conversation with each group after one of their meetings. The analysis draws on a general practice theory worldview, more specifically Wenger's (1998) concept of *mutual engagement.* My decision to use the concept of mutual engagement arose from a search for concepts in sociocultural theory that could help me understand some of my observations of interaction between students in all six groups during their practice period, where the interactions seemed to follow from one another.

I observed how one of the students in each of the six groups, either cautiously or humorously, explained to the other students that they were supposed to provide healthcare to patients as an interprofessional group. This idea aroused smiles and laughter and the students told each other that they did not quite know what working interprofessionally would involve, but that they wanted to try to make it a success. They stated that their interest was based on the fact that the goal of the practice period was to learn how to work interprofessionally, to enable patients to receive the healthcare they needed. Immediately afterwards, one of the students suggested that if they wanted to do the work well, they should meet and talk together about the patients, and the other students agreed. I also observed that following this conversation, the students seemed to pay good attention to various queries from other students and provided helpful responses. The first meetings of the groups were held as soon as the students started working with patients, and meetings continued regularly throughout the practice period. During some meetings, individual students stated that they found that their mutual dialogue expanded their knowledge about patient care; they therefore felt that the meetings were necessary, and the other students agreed. At the end of the practice period, I noted that students in all groups said that exchanging knowledge about individual patients in the group meeting itself was their most important experience of collaboration on patient care throughout the period.

In my search for theoretical concepts to help me understand the observations, I found Wenger's (1998) concept of mutual engagement to be relevant. This concept assumes that people must be capable of establishing a mutual relationship in order to succeed in reaching a common goal. The participants thus need to include themselves and each other in their efforts to move the group towards the goal. The explicitly stated desire of the students to cooperate on patient care and to hold meetings to this end can be understood as the first example of inclusion between the students in this development. A later example was the subsequent regular group meetings and the way the students agreed that the

exchange of knowledge in the meetings was a prerequisite for improving care and for their decisions to continue meeting. This was also expressed by the students on the final day of the practice period.

The students' final comment that they experienced collaboration on patient care in the group meetings made me wonder how they included themselves and each other in their efforts to improve patient care in the meetings. Drawing on Wenger's (1998) understanding of mutuality, as part of the concept of mutual engagement, I explored students' interaction in the meetings to learn more. I found that the students mainly included themselves and each other in three ways, which together produced a complex mutuality that developed and established itself in their interrelationship in the meetings. The three ways were: a) including each other in the facilitation of each meeting, b) involving each other in planning patient care, and c) inviting each other to cooperate in the practice of patient care.

Facilitating interactions in patient care. Right from the first meeting, the students began to develop an inclusive way of facilitating the meeting, which they continued to use in later meetings. They included each other by looking at, smiling at and listening to each other. They spoke in a friendly and polite tone of voice, took turns to share their knowledge and assessments of patients' condition and treatment and allowed the original speaker to speak again when spontaneous discussions arose. They regularly asked for each other's opinions about how the meetings were progressing and their plans for further patient care and made joint decisions based on the opinions provided.

In general, the students included each other both verbally and non-verbally in the way they structured the meetings, which Wenger (1998) considers necessary for people aiming at a common goal. Some of the elements needed to engage oneself and others are communicated through actions rather than explicit words.

Interactions in patient care. In the meetings, the students involved themselves and other students in order to explore what good patient care meant. This involvement was achieved by the students taking turns to share their knowledge and assessments of patients' condition and treatment. The listeners were involved when the speaker asked for their opinions on the information provided or when they spontaneously asked questions or supplemented the information with further details. The students then decided on further healthcare for the patients based on the information shared and discussed.

The students involved each other in the meetings by mutually seeking meaning and supplementing each other, which Wenger (1998) also describes as necessary for people from different disciplines to move towards a common goal.

Clarifying further interactions in patient care. From the very first meeting, the students started to engage themselves and invite each other to further interaction in patient care, and they continued in this way throughout the practice period. They did this by suggesting new meetings in the group to discuss patients, showing interest in and making agreements to take part in other students' patient care or inviting others to participate in their own patient care. The students also invited each other to make a joint effort to improve patient care by using "we" when summarizing the care performed by individual students. In addition, the students outlined their planned individual or joint care in common work plans or logs.

The invitations and agreements to meet again and the provision of different forms of patient care by two or more students enabled the students to relate to each other in many different ways and over time,

which Wenger (1998) describes as a characteristic of interaction in groups of people who succeed in achieving a common goal.

According to Wenger (1998), what it takes to develop and maintain mutual engagement can be subtle and delicate. My findings suggest that what enabled the students to develop complex mutual engagement in patient care was that they initiated inclusive, involving and inviting words and actions and responded to those of the other students.

5.2 Article 2

Gudmundsen, A.C., Norbye, B., Dahlgren, M.A. & Obstfelder, A. (2019). Interprofessional Education: Students´ Learning of Joint Patient Care. *Professions & Professionalism*, *9*(1), Article e3185. https://doi.org/10.7577/pp.3126

The main research questions of this article are: *How do the students realize the goal of interprofessional collaboration in patient care in group meetings?* and *What do they achieve through their action?* The data on which the analysis is based come from field notes and audio recordings from twenty-six group meetings with six interprofessional student groups and two informal conversations with each group. The analysis is based on a general practice theory worldview, more specifically Wenger's (1998) concept of *joint enterprise* and the concepts of *boundary crossing* and *boundary object* in general socio-cultural theory (Akkerman & Bakker, 2011). I found these concepts meaningful in my attempts to understand the students' doings in the group meetings when they talked to each other about patients' condition and treatment.

I observed that the students told each other on the first day of their practice period that they wanted to cooperate in order to develop interprofessional healthcare that would enable the patients to receive the healthcare they needed. They also said that they had to meet as a group to discuss what each individual student had found out and thought about the patients' condition and treatment, to help them decide how to succeed in their goal. Wenger (1998) states that people do not achieve a common goal by simply talking about wanting to achieve it; in order to succeed, they must also make an effort to create a joint enterprise. I felt I could interpret the students' decision to meet to talk about patients' condition and treatment as the initial stage of a joint enterprise. I also noticed that the students' dialogues about the patients seemed to move through different phases. During the practice period, I heard the students state that discussing the patients' condition and treatment was meaningful and necessary and at the end of the period, they said that their discussions had given them the most powerful experience of collaborating interprofessionally. Wenger (1998) believes that in order to make the path to the goal a joint enterprise, the participants must find ways to work together despite any differences between them. They do this by creating a context for what is to be produced, professionally and personally, and by committing themselves to participating in the activities they initiate jointly (Wenger, 1998). The regular group meetings and the students' discussions about the patients' situation seemed to me to be such a context, which enabled the students to produce a common knowledge base for patient care. I therefore wished to discover what took place when the students talked about patients and what the discussions led to.

The results of the analysis show that the students developed and maintained close collaboration in developing healthcare for patients in the group meetings; the patient care they provided would thus have a multi-professional knowledge base. The close collaboration mainly arose in three phases of the

discussions, represented by the activities of *sharing professional perspectives, collective assessment* and *joint decisions.* The three phases are presented below.

Sharing professional perspectives. In the meetings, the students took turns to share their individual knowledge about the patients' condition and current treatment. They mentioned that they had obtained the information from patient documents, oral reports, conversations with the ward staff and others, and their own observations and examinations of the patients. They also shared their assessments of this information. When each student spoke, the others listened quietly. In this way, the condition and treatment of the individual patient seemed to be the focal point of the communication between the students. According to Akkerman & Bakker (2011), material and non-material objects can build a bridge between the knowledge of practitioners of different professions, if the object is of great interest to all the professionals. In the student group meetings, the patients' condition seemed to be of mutual interest, and thus may have created a bridge between the knowledge and assessments of the different students.

By sharing and listening to each other's knowledge and assessments, the students seemed to want to be informed by each other's knowledge of the patients. Wenger (1998) considers it necessary to be informed by the knowledge of other participants when realizing a common goal. In the students' informal conversations with me, they appeared to confirm that this was what took place by saying that they felt that the exchange of knowledge and assessments gave them a broader foundation for patient care and enabled them to clarify the care needed sooner than if they had thought about it individually. They also reported becoming aware of and engaged in other students' various information needs, which also released their own latent and unconscious knowledge of patients.

Collective assessment. In addition to sharing their knowledge and assessments, the students discussed the information shared. According to Wenger (1998), goal realization as a result of a joint enterprise implies that the participants were able to include each other's knowledge. The students' discussions about the knowledge they shared with each other may represent an attempt at inclusion of each other's knowledge. However, when the participants represent different professions, Akkerman & Bakker (2011) argue that such inclusion will only take place if they can cross their professional boundaries. In order to cross boundaries, the participants must realize that the knowledge they have previously used is no longer sufficient to achieve their current goal (Akkerman & Bakker, 2011). The students' desire to talk together about what they had found out about the patients may be an expression of the fact that they realized from the very beginning that the knowledge they will use as a basis for healthcare in an interprofessional practice period is quite different from the knowledge they can produce individually. My informal conversations with the students suggested that they also experienced this when they began to share and listen to each other's knowledge. They reported becoming engaged in other students' knowledge and assessments during their discussions, which provided them with broader knowledge to assess the patients' situation, consult each other, and acknowledge and gain insight into each other's professional knowledge. As a result, they made efforts to ensure that others understood the terminology and professional assessments typical of their field.

Joint decisions. As the students shared and discussed their knowledge and assessments, they began to suggest individually what could be done for patients, but their final decisions were joint decisions. They seem to have done as Wenger (1998) suggests, namely that people who pursue a common goal must understand:

> […] what matters and what does not, what is important and why it is important, what to do and not to do, what to pay attention to and what to ignore, what to talk about and what to leave unsaid, what to justify and what to take for granted, what to display and what to withhold, when actions and artefacts are good enough and when they need improvement or refinement. (p. 81)

These points are not only important in relation to the goal itself, but also regarding the interaction between the participants (Wenger, 1998). In their informal conversations with me, the students stated that they based their decisions about patient care on evolving priorities about which professional perspective(s) were relevant, and that they developed a sense of which competencies were equivalent in order to prevent duplication in patient care. They also found that the knowledge they developed when they talked together enhanced the quality of care and that the exchange of knowledge made them equals in patient treatment. Akkerman & Bakker (2011) argue that the result of different professions successfully crossing boundaries when they collaborate will be that they develop a multi-professional knowledge base for use in their joint production.

Wenger (1998) states that interaction in a group of people will only develop into a joint enterprise if the participants are reliable work partners and develop a rhythm for coordination, exchange of opinion and mutuality (p. 82). My findings suggest that the reason why the students were able to establish a multi-professional knowledge base for patient care was that they met regularly and developed a rhythm for sharing, assessing and making joint decisions about patient situations and how to proceed.

5.3 Article 3

Gudmundsen, A.C., Norbye, B., Dahlgren, M.A. & Obstfelder, A. (2020). Interprofessional student groups using patient documentation to facilitate interprofessional collaboration in clinical practice: A field study. *Nurse Education Today*, *95*, Article 104606. https://doi.org/10.1016/j.nedt.2020.104606

The main research question in the third article is: *What are interprofessional student groups doing when using a narrative note in the electronic patient record to support their collaborative work and what are the consequences for the representation of patients' health statuses and care needs?* The analysis is based on field notes and audio recordings from documentation meetings in three interprofessional student groups and my informal conversations with the students about the documentation. The analysis draws on a general practice theory worldview, more specifically the concept of *shared repertoire* in Wenger's (1998) learning theory. I also use the concepts of boundary crossing and epistemic object from general sociocultural learning theory. In my search for theoretical concepts that could help me to describe and understand the students' joint documentation work, I found that the concepts of boundary crossing and epistemic object were still meaningful and relevant, following the analysis in article two. The new approach in this article was to describe and understand the students' use of the documentation system in patient care. In this context, the concept of shared repertoire appeared to be a meaningful starting point.

As described in articles one and two, I observed that the students in the different groups began to discuss collaboration in patient care, which was the aim of the practice period, to enable the patients to receive appropriate healthcare. Right from the start, they found out that they wanted to meet and discuss patients in order to achieve this. The meetings in the student groups continued regularly throughout the practice period. According to Akkerman & Bakker (2011), practitioners from different

professions may find it necessary to cross professional boundaries to solve certain tasks, because the tasks require new and more complex knowledge than a single profession can provide. The fact that the students wanted to meet and discuss patient care at the beginning of their practice period suggests that they expected to have to cross professional boundaries in order to develop interprofessional patient care.

In one of the first group meetings, I noted that a student in one of the groups asked the others whether the group should also document its conclusions after discussing patients. The reason given for this was that the group's conclusions about patients' condition and treatment ought to be formalized and communicated to everyone who works with those patients. But it could also be a collective reminder for the group members of what they have discovered and decided together. The students in all the groups soon agreed on joint documentation and decided to meet at a particular time to perform this task. I also heard one student ask whether they as a group should enter the information in the same document; the other students agreed with this idea. Shortly afterwards, another student suggested using narrative notes in the patient records. In the narrative note, all professions would document the information they have about patients and everyone involved would have access to it. The students then began to write information individually and in pairs, before coming together as a group to document their information, while the final content of the narrative note would be decided by the students in their joint documentation meetings. In these meetings, I noticed that the students based their review of their patient information on the points in the narrative note, and they told each other that they wanted to jointly fill in the information under each point. Information that some individual students or pairs had filled in before the meeting was read out and discussed, and adjusted when the students found it necessary. Wenger (1998) writes that people who seek to realize a common goal must develop a shared repertoire, i.e. different resources that enable them to reach a consensus on the goal and the way to achieve it, because opinions on both those issues will vary among the participants. The students appeared to use the narrative note as a resource to structure their exchange of views about patient care, and to clarify what they finally agreed on following their discussions.

The students appeared to be attempting to draw up a description of the patients' situation that would be valid and relevant across the professions. Akkerman & Bakker (2011) argue that a boundary object is required in order to cross professional boundaries and jointly develop new and more complex knowledge about something specific. The boundary object is a material or non-material object that can link up the knowledge of the different professions (Akkerman & Bakker, 2011; Wenger, 1998). The description of patients' condition and treatment seemed to constitute such an object for the students. But such objects can also be "epistemic things", i.e. objects that are unfamiliar to all the participants but appeal to the various emotions of the participants due to their open nature (Nicolini et al., 2011, p. 614). I heard the students tell each other that they needed each other's information and assessments in order to decide on the kind of healthcare patients needed from them as an interprofessional group. The patients' condition and treatment can thus be understood as representing an epistemic thing for the students. I became interested in exploring the students' doings that enabled them to document in the narrative note together and the importance of the documentation for patient care.

The results of the analysis show that the students developed a comprehensive multi-professional description of patients' condition and treatment and used this description as a basis for the care they provided themselves and for communication to the other staff on the ward. In the documentation meetings, the students mainly moved towards each other's patient knowledge and assessments in three

ways in order to produce a multi-professional description: *by acknowledging differences in each other's professional perspectives*, *by recognizing profession-specific expertise* and *by combining similar profession-specific knowledge*. The three ways are presented below.

Acknowledgement of differences in professional perspectives on patient health. The students encouraged each other to elaborate on their observations and assessments of the different areas of a patient's functioning, while following the points in the narrative note and performing documentation. When they discovered that their observations and assessments led to contradictory conclusions, they acknowledged that their own observations and assessments of the patient's functioning could be different and unreliable. In such cases, the students documented the differences and added a statement that they needed to perform new examinations and assessments.

The way the students encouraged each other to express their different profession-specific patient knowledge may be understood as implying that they assumed that this knowledge would vary. Wenger (1998) states that people who wish to achieve a common goal must develop resources that will help them reach agreement in an interactive and dynamic way, despite differences of opinion on the goal and how to achieve it. The students appeared to use the narrative note in this way in order to identify and evaluate inconsistencies in their patient knowledge and then to decide on and communicate a common understanding of the patient's situation and care. When they discovered that the patient knowledge they brought into the documentation provided a contradictory understanding of the patient situation, the procedure seemed to be that all students aimed to acquire new knowledge rather than rely more on the understanding of one particular profession.

Recognizing profession-specific expert knowledge on patient health. The students acknowledged that the observations and assessments of certain students could be given more weight than others; when they discovered that some students had expertise in an area they were less familiar with, they made those students' knowledge the main source in the text they wrote in the narrative note.

Wenger (1998) argues that different perspectives on what something is and on what should be done in a group can be coordinated effectively, if the resources for resolving differences of opinion make this possible and there is rich mutual engagement between the participants. By using the narrative note, and knowing that it covers areas of patient functioning about which only some students have expertise, the students appeared to assume that they had to rely on each other's expertise in order to draw up a joint description of the patient. The dynamics between the students suggested that they found it appropriate to use the expert knowledge of individual students, when the other students did not possess this knowledge.

Combining similar profession-specific knowledge on patient health. Students also combined their observations and assessments when they discovered that these were similar regarding some of the areas of patient functioning. On the basis of variations in the students' statements, detailed and consistent descriptions of patient functioning were created.

The combination of knowledge can also be understood as effective coordination of professional perspectives. The use of the narrative note, which includes all areas of human functioning and does not focus on one specific profession, suggested that the students were willing to allow a number of professions to document their knowledge of the same areas of functioning in patients. The students'

use of the document thus seemed to be based on the perception that different kinds of expertise could be complementary in descriptions of patient situations.

Wenger (1998) states that when people develop material and non-material objects in order to exchange opinions and reach a consensus to achieve a common goal, they identify with each other and have a sense of mutual belonging. But the objects are also an expression of the type of community of practice. My findings suggest that the students used narrative notes to express that they defined themselves as a group, and as a group that jointly clarified and communicated patients' condition and healthcare. At the same time, my findings seem to show that the structure of the narrative note made the students realize that to agree upon a comprehensive description of patients' situation and healthcare was a complex matter, requiring them to acknowledge, recognize and combine their diverse professional knowledge and perspectives. The narrative note thus seemed to lead the students into exchanges of professional opinion, where the result was not only complex patient descriptions, but also the beginning of a complex professional community of practice.

5.4 Overall results

Taken as a whole, the results of the three sub-studies seem to demonstrate a path of action and interaction in which the students arrive at a clear idea of what interprofessional work can be. This process therefore seems to be what Wenger (1998) describes as a reification process, i.e. interaction where structures and objects are formed that represent the participants' understanding of a goal and how they can achieve the goal together. This can then lead to the development of the three relational dimensions that constitute a social practice (Wenger, 1998). It seems to be the independent and strongly exploratory nature of the interaction in the student groups that forms the basis for the reification process.

6 Discussion

In this dissertation, I examine *what health profession students do when interacting in interprofessional group meetings during joint voluntary clinical placement*, in order to develop knowledge of how the students learn interprofessional collaboration in the meetings. In addressing this topic, my basic assumption is a general practice theory perspective that society is a network of social practices that can be learned (Lave & Wenger, 1991; Nicolini, 2012; Reckwitz, 2002; Wenger, 1998) and that interprofessional work can be understood as such a practice. I then explore the patterns that I notice in the interaction in the student groups based on the theory of communities of practice. This theory suggests that people are meaningful and knowledgeable learners who can develop social practices if they jointly pursue a goal through the three relational dimensions of *mutual engagement*, *joint enterprise* and *shared repertoire* (Wenger, 1998). The study reveals that the interaction in the student groups was exploratory in its nature, and formed the basis for a reification process in which the three relational dimensions that are necessary to begin moving towards interprofessional healthcare, represented by complex mutual engagement, a multi-professional knowledge base and multi-professional descriptions of patients, evolved.

Here, I discuss the exploratory nature of interaction in the student's groups, the development of the three relational dimensions represented by complex mutual engagement, a multiprofessional knowledge base and multiprofessional descriptions of patients and the generation of knowledge through social interaction.

6.1 The exploratory nature of interaction in the student groups

What the students seemed to do in their initial negotiations with each other, described in article one and two, was to establish what I call an experimental boundary crossing partnership in their groups, which allowed them to explore what it meant to perform interprofessional patient care. As soon as the students agreed to find out together what interprofessional work was, they began to imagine what they could do to work interprofessionally in their groups. The reification process in the student groups thus seemed to commence and continue, as Wenger (1998) suggests that such processes can do when people are faced with an unknown practice that they want to learn, but have to find out what to do themselves. They can begin to use their imagination with others to envisage what they will do and jointly explore their imagined ideas (Wenger, 1998). In this way, they bring home the unfamiliar and gain experience upon which they can build by evaluating their actions and creating new actions (Wenger, 1998). At the same time, the students in all groups agreed to establish the patients' condition as the subject of joint exploration, and in some groups also the documentation of the condition, to find out what to collaborate on. They thus operationalize the question of what interprofessional work was by making the patients' condition and the documentation into what I would call an experimental boundary object, as described in article two and three. The very question of what interprofessional work consists of seemed therefore to be the initial boundary object between the students; it is something of interest across the professions, and can therefore build a bridge between the participants' various professional perspectives (Akkerman & Bakker, 2011; Star, 2010; Star & Griesemer, 1989; Wenger, 1998). As a boundary object, the question of what interprofessional work is seemed to appeal to the students precisely because they did not know what it was, but wanted to find out, and it therefore also seemed to be what Nicolini et al. (2011, p. 614) describes as an epistemic object.

The students' development and establishment of an experimental boundary crossing partnership and their decision to make the patients' condition and the documentation their experimental boundary object thus seemed to be a necessary first step towards the development of the complex mutual engagement, multi-professional knowledge base and multi-professional descriptions of patients in their provision of healthcare.

6.1.1 The establishment of an experimental boundary crossing partnership

In Wenger's (1998) view, the ways in which people choose to move towards a common goal will always be a response to the situation they are in. The students' situation was that they had volunteered to find out for themselves what to do to work as an interprofessional group in patient care, which was a working method that they had not yet learned in their programme. The patients, the patient care and the interaction with the ward staff on the care were real, which are assumed to be factors that constitute additional pressure on students participating in interprofessional education (Granheim et al., 2018; Lim & Noble-Jones, 2018). Further, the student groups did not receive any specific instructions on what to do at the start of the practice period. As described in article two, the students in all groups immediately told each other that they wanted to work interprofessionally in patient care, and then suggested meeting as a group to find what they should do. By agreeing to this and attending the first meeting, the students initially made each other partners across their various professions in order to jointly explore the meaning of interprofessional work. They thus established what I propose to call an experimental boundary crossing partnership.

As mentioned, the students volunteered to take part in the practice because they wanted to learn interprofessional collaboration. The fact that they were offered participation in the interprofessional practice period suggested to them that interprofessional work was a highly relevant area of healthcare; they would have to work in this way after graduation and they would learn how to do so during their interprofessional practice. The students' desire to learn interprofessional work can therefore be linked to the notion in practice theories that people seek new knowledge when they find that their existing knowledge is insufficient to achieve the goals they are working towards (Nicolini, 2011; Reckwitz, 2002). Further, students who volunteer to participate in interprofessional learning activities also appear to be motivated to learn in a collaborative way with students from other professions from the moment they agree to take part (Reeves et al., 2016) and they appear to be particularly positive about being involved in a learning process with other students (Granheim et al., 2018; Marion-Martins & Pinho, 2020), in comparison with students who do not participate voluntarily and are thus less positive (Reeves et al., 2016). The immediate suggestion of the students in this study that they could be partners in finding out what interprofessional work is, the rapid agreement in the group to attempt to do this, and the fact that they all attended the first meeting may therefore be because they had begun to imagine alternative ways of relating to each other in patient care even before the internship period. They may also have been prepared to relate in a new way to students of other professions precisely because the practice period offered a new form of professional collaboration. This means that they had to expose their uniprofessional identity to what can be understood as discontinuity (Akkerman & Bakker, 2011).

In addition, the mandate for the practice period placed the students in a situation of legitimate coexistence. This means that professionals are allowed to become members of several groups in an organization at the same time, without this being politicized by other staff (Akkerman & Bakker,

2011). During their practice period, the students were no longer constrained by traditional barriers to explore their own professional identity and were allowed to explore an interprofessional dimension, while still belonging to their particular professional groups in their work on the ward. According to Morrell et al. (2021), solving problems together in realistic learning activities strengthens students' engagement and involvement in each other. This may imply that the groups studied here were not afraid of interacting in untraditional ways, since they had the freedom to decide on untraditional ways of solving their tasks.

However, the students were to participate in developing and providing interprofessional healthcare to real patients, which was as mentioned a working method that they had not yet learned. Therefore, the students were in a situation of having consciously given up being in control of knowing what to do with the patients. In a study of students who were asked to conduct interprofessional outpatient consultations with real patients, Jakobsen et al. (2019) found that not knowing what to do with the patients made the students unsure and frustrated. However, the study revealed that setting a common goal for a task and solving it together was a positive experience for the students, because it made them feel equal in the situation and context. Lim & Noble-Jones (2018), also found that working in teams made students feel equal and thereby more secure. The students in this study may have decided to try to be partners across professions and attend the first meeting because the overall situation made them feel unsure as individuals in relation to their ability to fulfil their mandate, despite having joined voluntarily. By making each other partners, they could use each other's knowledge and imagination to support their own knowledge and imagination, which also meant that they increased the likelihood of finding out what to do and shared responsibility for the outcome. It may have reduced the pressure on the individual student.

Kent et al. (2016) found that students who volunteered to conduct interprofessional consultations in groups with real patients in two different clinics from the outset expected the whole group to share their professional perspectives in assessing patients' condition and deciding on treatment. The clearly formulated suggestion to meet as a group to find out what interprofessional work meant and what they should do may have led to a mutual expectation that professional perspectives would be shared between the students in the groups I observed, resulting in all the students attending the first meeting.

Various factors may have been involved when the students met to fulfil their mandate for their practice period, and made them decide to try to be partners in finding out the meaning of interprofessional work in their groups. My interpretation is that these were a search for new knowledge and a desire to learn with other students, freedom from traditional ways of solving tasks, individual students' uncertainty about their ability to fulfil the mandate and the expectation to share professional perspectives. By deciding on partnership, the students seemed to create an initial foundation in a completely open situation: they changed from being individual students to becoming partners and could begin to establish the content of their new interrelationship, one action at a time, from the first meeting in the group. By telling each other what they imagined interprofessional work could involve and by responding to each other's ideas, both verbally and non-verbally, a close mutual engagement began to evolve and thus a relationship that enabled boundary crossing, i.e. negotiating and combining a variety of expert knowledge without being limited by what belonged within the boundaries of their own profession (Akkerman & Bakker, 2011; Wenger, 1998).

6.1.2 The establishment of an experimental boundary object

However, in order for different professions to innovate together, there must be something they are all interested in that builds a bridge between their various professional perspectives on the path towards their goal; this is known as a boundary object (Akkerman & Bakker, 2011; Star, 2010; Star & Griesemer, 1989; Wenger, 1998). Generally, an external actor or one or more representatives from the professional communities see the possibility of creating something new by working together; they then introduce the object of common interest that can build the bridge between the participants (Wenger, 1998). The students in this study said that they wanted to explore the idea of working interprofessionally, which was presumably the reason why they volunteered for this particular form of practice. When they decided to discuss patients' condition and treatment to find out what to collaborate on, as reported in article two, it was because they agreed that the patients' situation was in their common interest. They therefore wanted to start their exploration of interprofessional work by finding out what each one of them could contribute to a joint clarification of their proposed approach. In this way, they established the task of determining patients' condition and treatment as the first object of communication across professional boundaries. This task can therefore be understood as a boundary object, although initially it seemed to be a tentative object of joint focus and communication across professional boundaries. The partnership in the groups thus seemed to involve a joint attempt to find tasks that it would be meaningful to collaborate on, which would not necessarily be the first tasks they chose. This means that the patients' condition as a boundary object has the character of what I would call an experimental boundary object. That means an object of common interest among other potential objects of common interest that the students could have chosen as experimental boundary crossing partners, now or later in their interaction process.

To make the patients' condition and treatment the object of a common focus and discussions may from the outside seem an obvious step for the students to take, as their mandate was to provide patient care as an interprofessional group. Yet they did not know whether their decision on the basis of a joint assessment would be a sensible one. According to van Soeren et al. (2011), students are able to discover manageable gaps between their current knowledge and the knowledge they want to gain in realistic interprofessional learning activities, which also motivates them for further engagement. This also corresponds to Wenger's (1998) description of human character, namely that humans are knowledgeable and meaning-seeking beings who can link what they know to what they do not know in order to act. They also use their imagination to make the unknown familiar and create experiences that can be evaluated. In the case of the students, this seems to mean that they decided to address the gap between what they knew as professionals and what they did not know about interprofessional work by starting where they would have started as individuals in providing care to patients, i.e. by accessing information about the patients' condition, and making assessments and decisions based on the information, before implementing any action. Being in an interprofessional group, however, they now made each other partners in the process.

The patients' condition and treatment as a boundary object appeared to change from being experimental to becoming increasingly meaningful to the students over the course of their meetings in the practice period, as reported in article two. The task of jointly deciding on the patients' condition, which the students themselves initiated and shaped, seemed to create a real professional connection between them, in addition to their organizational connection, which involved establishing the group as an exploratory partnership. The interaction in the group meetings around the patients' condition and treatment therefore seemed to show that the students were able to orient themselves towards each

other in a collaborative way, as reported in article one, when they themselves had to find out what interprofessional collaboration in patient care was.

6.2 The development of the three relational dimensions

According to Wenger (1998), the development of the three dimensions of relation that constitute a community of practices, is closely intertwined. However, by drawing on Wengers descriptions of the dimensions I was able to observe and describe how the three relational dimensions that can constitute social practices were negotiated and emphasized in the group interaction.

6.2.1 The development of complex mutual engagement in patient care

In article one, I pursue the dimension of mutual engagement (Wenger, 1998) and conclude that a complex mutual engagement to patient care seemed to emerge and be maintained through the students' verbal and non-verbal suggestions and responses to each other in the regular group meetings; it also appeared to involve the type of reciprocity that Wenger (1998) suggests is necessary for a group to move towards a common goal. The students' friendly suggestions and responses to each other seemed to create an inclusive structure and atmosphere from the very first meeting, which meant that all students took part in assessments and decisions regarding the content and progression of the meetings, patient care and their further interaction in caring for patients. In a study of students who were about halfway through their programme and who participated in an interprofessional practice period, Brewer and Flavell (2021) also observed that most of the groups were "high functioning" in terms of interacting in an inclusive way in their patient work. Kent et al. (2016) also found that towards the end of their programme, students who had volunteered to join interprofessional groups to plan and conduct patient consultations independently during a half-day session in a clinic often engaged in discussions to reach a common understanding of the patients' situation.

In my study, my interpretation of the data suggests that the students negotiated mutual kindness, attention, respect and participation during the first group meeting, which formed a basis for a sustained inclusive structure and atmosphere in planning patient care in subsequent meetings. I explain the development of the inclusive structure and atmosphere from a socio-cultural perspective, where students are meaning-seeking beings who use previous knowledge and experience to find out how to engage with each other in the groups in order to provide patients with interprofessional healthcare. Brewer and Flavell (2021, p. 541), by contrast, interpret their data as showing that humour and an informal tone makes for high functioning groups. The authors also use the terms "…respect, support, considerate, engaged, interested and friendly..." (Brewer & Flavell, 2021, p. 541) in descriptions of their observations of interaction in the high functioning groups. These terms largely agree with my descriptions of the interaction in the student groups that I observed, as reported in articles one and two. Brewer and Flavell also report that humour and an informal tone were not present in the low functioning groups. The authors explain the humour and informal atmosphere in the high functioning groups on the basis of the theory of psychological safety, since the students felt safe in the group interaction at an early stage. The students expected the relationships to be based on mutual trust and respect, even if, for example, they had gaps in their knowledge. On the other hand, students in the low functioning groups are described as feeling less secure. The authors implicitly suggest that safety in the groups is a black-and-white issue, where all or most of the students in the high functioning groups felt safe and were able to interact, while all or most in the low functioning groups felt unsafe and therefore unable to interact with each other. However, it seems likely that there could be safe and unsafe students in both types of groups, and to different extents.

From a practice theory perspective, people can develop specific ways of understanding and knowing how, wanting and feeling, and generate a form of collective knowledge that leads to goal achievement (Nicolini, 2012; Reckwitz, 2002). Therefore, the feeling of safety will also be negotiated between people through their verbal and non-verbal initiatives and responses to each other, and the result will be what the people are able to create as a group and can vary considerably between groups. Humour and an informal tone can therefore be understood as promoting a feeling of safety and will receive positive responses among students in high functioning groups, while these or other factors that help to provide safety are insufficiently initiated by students in low functioning groups. A sense of humour and an informal tone were also typical of the interaction in the groups that I observed, both within and outside meetings. However, the frequency and level differed between groups from the beginning to the end of the practice period, especially with regard to humour. However, there was a similar development across groups in students' mutual engagement in interaction in the meetings and in their decisions on the content and progression of the meetings, patient care and their further interaction. The students in my study may thus have jointly created a feeling of safety in their groups while demonstrating and responding with kindness, attention and respect for each other.

Kent et al. (2016) did not provide a detailed description of how the students interacted when they discussed and reached a common understanding of the patients´ situation, or how they addressed silent co-students. Drawing on activity theory, the authors explained that the students enforced a rule on silence among themselves when they involved each other in discussions and addressed other students. The rule was that they expected everyone to contribute to their efforts to determine a patient's situation. From a practice theory perspective, expectations can be understood as expressions of opinions that are negotiated. Actions such as asking others to join the discussion and addressing silent students can therefore be understood as a negotiation on participation in patient care in a group, which involves including all members of the group in the work. However, silence can also be understood as representing insecurity, although Kent et al. did not describe how the silence took shape or could be understood. In the student groups that I observed, one student either started the first meeting by sharing information and thoughts or asked if someone else wanted to share first. Afterwards, another student was asked or spontaneously volunteered to speak. The sharing went on until all the students had participated. If one student suggests being the one to start sharing patient information or asks the others if any of them want to start, this implies an expectation that everyone will share. If the other students also share the information they have in turn, it implies that they agree with the suggestion to share; they thus begin mutual engagement in patient care and draw experience from this. Yet it is possible that a number of students initially had the same expectation and would have expressed it if the student who first suggested sharing information had not done so, also that some students would have remained silent if no one had started to share their information. Therefore, it is impossible to know what would have happened if some of the students had not shared information.

Nevertheless, the observations in my own study showed that the students were able to engage with each other to provide patient care. The studies discussed above generally show the same, where the students were also halfway and near the end of their programme. The prerequisite seems to be that the students are capable of creating an inclusive structure and atmosphere for their interaction. However, the complexity may differ from one learning activity to another.

6.2.2 The development of a multiprofessional knowledge base in patient care

Joint enterprise is described by Wenger (1998) as participation in developing and taking responsibility for activities that can help participants to achieve a common goal. In article two, I describe how the students considered that the patients' condition was what they needed to discuss in order to develop interprofessional healthcare for their patients. In pursuing Wenger's description of the concept of joint enterprise, I found that the students made the patients' condition and treatment their main focus for the practice period and had regular discussions where they shared all the information they collected and produced about the patients, evaluated this knowledge and drew conclusions from it (also described in article one). Their discussions led to a multiprofessional knowledge base, which the students drew on in their further patient work, among themselves and with the ward staff. The development of the multiprofessional knowledge base thus seemed to involve participation in and responsibility for patients' condition and treatment, which was the students' area of joint focus during their practice period, and therefore appeared to be similar to the type of joint enterprise described by Wenger (1998).

Brewer and Flavell (2021) observed in their study that the students in the high functioning groups shared the knowledge they had, made suggestions, requested input, were critical of and developed each other's ideas and explained jargon and abbreviations. Further, they integrated each other's uniprofessional goals into patient care. Kent et al. (2016) reported similar findings in their study; students asked for each other's knowledge, skills and perspectives, developed and clarified each other's understanding of a patient situation in order to reach a common understanding, and explained terminology and treatment effects, when planning and conducting patient consultations. The study by Brewer and Flavell does not reveal whether the students established a multiprofessional knowledge base for the group to refer to in their further patient care during their placement. By contrast, Kent et al. described how the common understanding of a patient's situation the students had gained when planning the consultation was immediately used in the consultation itself, in a joint summary for the patient's general practitioner and in a presentation for the other student groups. During this presentation, students who had worked in pairs also helped each other to remember details.

However, although Brewer and Flavell (2021) and Kent et al. (2016) do not state that the students they observed developed a common knowledge base in the same sense as I do in article two, their studies still show that most of the students were able to form an opinion on others' knowledge and assessments while sharing their own and seemed to use this as a basis for their patient care. As mentioned in the section above, the students in my study reported broadening their knowledge as a basis for their decisions on patient care when they shared and discussed the patients' situation with each other, which also meant that together they enhanced the quality of the care they provided. The students' statements agree with findings in review studies, namely that students state that they not only discover that they have different perspectives when working in interprofessional groups in authentic learning activities, but also realize that the knowledge on which they base care and treatment provides a better and more holistic understanding of patients' situation (Kent & Keating, 2015; Lim & Noble-Jones, 2018) and that they can provide effective interprofessional care to patients when the goal of the interaction is patient-centred (Lim & Noble-Jones, 2018). I also explain the students' regular meetings with each other by the fact that the students find it meaningful to interact as they do in the meetings, which implies developing a multiprofessional knowledge base precisely because they add different professional perspectives to the patients' situation.

In the student groups in my study, the sharing of information that is developed and maintained in the meetings and that creates a broad knowledge base seems to result from the students collectively beginning to figure out what was meaningful work in patient care since sharing patient information in the first meeting. The information sharing thus functioned as a jointly established information loop, where the students bring information to the group on behalf of the group after having clarified what they individually or together should do with patients between meetings. In this way, the patient information shared and discussed in later meetings was largely initiated by the students themselves as participants in the group (as shown in article one). The sharing of information in the new meetings may therefore be similar to the home-coming sessions that Ivarson et al. (2021) described in their study, in that the students were very interested in the information that other students could bring back to the group after performing various tasks separately, both specialized tasks and work that the students divided among themselves. The students may realize that the knowledge they developed together was not only meaningful because of its breadth, but also because it fulfilled their increased need for information, which arose precisely because the students began to discuss patient information with each other and distribute tasks.

However, in article one I describe how the development of the multiprofessional knowledge base grows in parallel with the students' creation of an inclusive structure and atmosphere in their meetings. Brewer and Flavell (2021) also linked the high functioning students' frequent and varied interaction and the depth of their interaction on patient care to the atmosphere which they created in their groups, in contrast to the low frequency and little variation in the interaction in the low functioning groups that did not create the same atmosphere. This observation concurs with the findings by Lim & Noble-Jones (2018), which shows that students in interprofessional groups will be involved in the information loop that follows the patients´ situation when the communication in the groups is good.

My own observations and the observational studies by Kent et al. (2016) and Brewer and Flavell (2021), shows that the students are able to develop multi-professional knowledge to use as a basis for patient care, if they are simultaneously capable of creating an inclusive form of interaction in their work in the groups. However, the depth of the multi-professional knowledge may differ from one learning activity to another. Nevertheless, the development of multi-professional knowledge and mutual engagement appear to be closely linked and interwoven.

6.2.3 The development of multidimensional patient descriptions in patient care

Wenger (1998) also describes a shared repertoire as a necessary part of achieving a common goal, which means that the people involved develop common resources that enable them to negotiate meanings and direct their actions and interaction towards the goal (Wenger, 1998). In the third article, I describe how three of the student groups felt that they needed to make available to themselves and other staff the results of their regular discussions on patients' condition and treatment in written form in the documentation system. By pursuing Wenger's description of the concept of shared repertoire, I found that the students wrote the text as multidimensional descriptions of patients, which formed the basis for further care where they acknowledged differences in their professional assessments, profession-specific expertise and combinations of similar profession-specific knowledge. At the same time, they transformed the knowledge they produced orally in the regular group meetings from what can be understood as an immaterial object to a material object. Documentation of these

multidimensional descriptions thus seemed to be a resource for professional negotiations of meaning that enabled collaboration on patients' condition and treatment, which was the aim of the students. The descriptions of patients therefore seemed to be a resource of the type described by Wenger (1998).

The students in the study by Kent et al. (2016) also created a text in the form of a summary for the patients' general practitioner after having interviewed patients as interprofessional groups, as part of the design of their learning activity. However, the authors do not describe the student interaction while they worked on the summary, or the result of their work. Yet both the students in my study and those in the study by Kent et al. (2016) used a document that was designed to enable different professions to use it to obtain and record information about patients' health situation. The students studied by Kent et al. were given a screening interview prompt sheet to be used as a tool in their joint interviews with patients, while the students in my study chose to use a narrative note in the electronic patient record, in order for the whole group to document information in the same place. The documents were thus different and served different purposes but the common feature of both studies was that the students decided to follow the themes in the document they used. This suggests that they used the documents as a resource to determine which information was relevant to obtain and document based on an interprofessional approach.

Kent et al. (2016) also observed that the students divided the questions for the patient interviews among themselves on the basis of individual students' competence and self-confidence in the various areas in which they needed information, but also with regard to the time available for the interview. The students in my study also considered each other's competence when documenting information, but they still spent time exploring and compiling the content of the information across professions. However, they recognized individual students' particular knowledge; patient information that one student had about a particular area of functioning was documented as the group's information in the written text. In addition, students acknowledged that information that they had documented and drawn conclusions from in the narrative note before their group meeting could be incorrect when compared with information that other students brought to the meeting. This suggests that documents that make it possible to obtain and document patient information based on an interprofessional approach can facilitate interaction across professions in various learning activities.

As described in article one, the students in my study invited each other to interact in patient-related activities in the first and subsequent meetings. The idea of joint documentation arose when the students were sharing information and making decisions about patient care at the very beginning of the practice period, as reported in articles one and three. The students' development of joint documentation thus seems to be closely interwoven with their experiences while creating a multi-professional knowledge base (article two) and complex mutual engagement in patient care (article one) in their groups.

6.3 Knowledge development through social interaction

My chosen theoretical perspective implies that people are knowledgeable beings and that learning takes place continuously in all informal and formal everyday activities (Lave & Wenger, 1991; Nicolini, 2012; Reckwitz, 2002; Wenger, 1998) and can be observed through changes in action (Wenger, 1998). I thus understand the students as knowledgeable beings who develop their knowledge and actions through negotiations of meaning within the group and with external actors, in order to achieve the goal of interprofessional collaboration. I observed in my data that the students

immediately began to explore what they needed to do to learn interprofessional work in their groups and to achieve their goal of providing patients with interprofessional healthcare. The students thus acted in the way that people do and on the same basis as Wenger (1998) suggests; they bring home the unfamiliar with the help of their imagination and take active steps in their uncertainty by starting to discuss each other's wishes for the period and knowledge and ideas of interprofessionalism. The structures that developed across the students´ professional boundaries can be understood as representations of the three dimensions of relation that constitute a community of practice. The development can occur between people representing different social practices in society when they have a common interest in realizing a goal (Akkerman & Bakker, 2011; Wenger, 1998) and use their imagination (Wenger, 1998) to create an environment in time and space for the negotiation and combination of their different expertise and the creation of new knowledge (Akkerman & Bakker, 2011; Wenger, 1998). The students' interaction in the meetings as shown in the three articles may mean that they moved towards a common goal in the meetings, as described by Wenger (1998).

The fact that the students began to explore what they could do together to achieve interprofessional collaboration indicates that they assumed that they were able to find out what to do together on the basis of their common ideas and knowledge, which could inform their further actions. Since students who participate voluntarily in realistic learning situations report greater interprofessional learning outcome than those who are not voluntary participants (Fain & Kennel, 2017; Reeves et al., 2016), the reason may be precisely because they assume that they can imagine what to do and experience something new through interaction with students from other professions. Further, when students find that they develop their communication and collaboration skills (Granheim et al., 2018; Kent & Keating, 2015; Kent et al., 2017; Lim & Noble-Jones, 2018; Marion-Martins & Pinho, 2020; Oosterom et al., 2019), it may be for the same reason, namely because they are creatively participating in social interaction with their fellow students.

However, according to Imsen (2005), learning processes are not either social or mental, although different theories of learning emphasize one dimension over the other (Imsen, 2005). Instead, the individual cognition and motivation that occur, viewed from a practice theory perspective, are understood as mediated by interpersonal interaction (Schoor et al., 2015). The suggestions and responses that the students communicated to each other, and which formed the basis for their actions and interactions to fulfil their mandate thus also involved mental processes. However, Imsen (2005) states that different learning situations will require different learning processes. Problem solving in realistic situations requires action, and therefore also complex thinking, due to the dynamics that occur in such situations (Morrell et al., 2021). The fact that students who participate in realistic learning situations report greater interprofessional learning than students who do not (Fain & Kennel, 2017; Reeves et al., 2016) may therefore be because they find that interaction with students from other professions requires complex thinking.

In each of the student groups studied here, the students' actions were apparently continuously being created, based on the ongoing suggestions and responses that arose between them with the goal of establishing interprofessional patient care. According to Wenger (1998), the learning and adaptation required to realize a common goal needs to be a joint effort between the participants. Wenger (1998) further states that this also means that the learning and the ownership of the process and the results are unique and intimately connected to the group feeling of the participants. The fact that the student groups in my study independently managed to establish an experimental boundary-crossing

partnership and an experimental boundary object and thereby close mutual engagement, a multi-professional knowledge base and multidimensional descriptions of patients indicates the students' ability to develop complex work and learning across professional boundaries by drawing on each other's knowledge and imagination.

7 Final methodological considerations

7.1 Reliability

Reliability is a positivist notion which states that the researcher should be neutral (O´Reilly, 2012; Tjora, 2012). This means that the researcher's engagement must not amount to noise that affects the research results. However, according to Blaikie and Priest (2019), objectivity is relative in social research, because there are no definitive standards with which the measurement tools can be compared. There are only well-used instruments in which certain research communities have high confidence (Blaikie & Priest, 2019, p. 211). In the interpretive tradition, to which this study belongs, the researcher's engagement, knowledge and experience are therefore instead recognized as a resource in the research (Blaikie & Priest, 2019; O'Reilly, 2012; Tjora, 2012). The researcher is the measuring tool and no two researchers are considered to be alike, because researchers will have different combinations of knowledge and experience. Consequently, interaction with the informants will not proceed in the same way, which ultimately means that what is reported in the presentation of the results is what the unique researcher learns through the research process (Blaikie & Priest, 2019). Despite this, the reliability of qualitative studies should be assessed (Tjora, 2012).

The reliability of a qualitative study can be assessed by the researcher working reflexively through the research process and explaining as well as possible all the steps (Creswell & Creswell, 2018; O'Reilly, 2012; Tjora, 2012). In Chapter 4, I provide a reflexive account of the steps in the research process in this study to enable the readers of the study to assess the individual choices I make and the consistency of the process as a whole. Nevertheless, there are some aspects of the research process that I wish to reflect on here. These aspects concern what Tjora (2012) describes as the researcher's engagement in or particular knowledge of the topic, the researcher's selection of and relationship to informants and the use of the data and theory.

7.1.1 Engagement in and particular knowledge of the topic

My attitude to interprofessional collaboration in the health sector has always been positive, for the same reasons as stated in health policy documents, which are to increase the possibility of providing patients with more comprehensive and holistic health care. However, at the same time I have observed that organization of interprofessional work in the sector has been slow to develop. I thus immediately agreed that it makes sense to give students experience and training in specific interprofessional collaboration activities during their education, when I heard about the development of the practice period of the students in this study. At the same time, it is my understanding that interprofessional collaboration is difficult to achieve in practice, and requires that health services are equipped for working interprofessionally and that health personnel are also capable of changing the way they work.

My positive view of interprofessional work and education and the fact that my PhD deals with the development of the practice period may be expected to determine what I look for and notice in student interaction; I would thus tend to search for the positive effects of the learning activity on the students. However, my view of interprofessional collaboration as difficult to achieve might steer what I look for and see in the opposite direction. However, at no point has it made sense to me to be biased in relation to which direction the students' interaction should take during their practice period. The research question for my study may be said to provide an open approach by asking precisely what the students do in their meetings, and the methods I have chosen to generate data also enable the development of

data that describe what they do. This means that no matter what the students do, their doings constitute the database that can answer the research question of the study. Nevertheless, as Blaikie and Priest (2019) argue, it may be that what the individual unique researcher learns through the research process is what is reported in the presentation of the results, because the researcher herself is the measuring tool. Further, the researcher will be influenced by her knowledge and experience and interact with the informants in her own unique way. For this reason, even if I consider that I am developing knowledge about the students' interaction without steering the results in any particular direction, it cannot be ruled out that my own knowledge and experience of interprofessional collaboration may influence what I notice in the interaction and the patterns I perceive, in ways that I do not realize myself.

7.1.2 Selection of and relationship to informants

In Chapter 4.6, I state that I did not influence the selection of the students. However, all the groups involved in the practice period were represented by students who volunteered from at least three of the relevant professional programmes and from the relevant year of study.

I did not know any of the students until I met them as a researcher, not even the nursing students. However, a certain kind of relationship will develop in any case when people spend time together (O´Reilly, 2012). In Chapters 4.6.1, 4.6.2 and 4.7 I describe how I approached the groups and the fact that the students let me participate in activities in accordance with my wishes. When I asked the students at the end of the practice period how my presence had affected them, they replied that they soon became used to me and forgot that I was in the room while they were working. However, some students said that they reflected more deeply about their actions and the interaction in the groups after the conversations that followed from my questions about what they did together. Perhaps I as a researcher had a positive influence on the students' engagement and interaction. Although the students said they forgot that I was there in the meetings, my presence may have served as a reminder of the purpose of their practice period. I also learned that the students quite soon began to speak about informal and private topics when I was listening, for example when they were waiting for everyone to arrive at a meeting or after the meeting had ended. There were also various humorous comments and situations before, during and after the meetings, when the students did not seem to take my presence into account. As previously mentioned, I decided to give suitable responses to their conversations and humour. However, it may well be that the students' reflections that arose from my questions in our informal conversations increased their awareness of the purpose of their practice and their experiences during and outside their meetings. Their reflections were then reinforced when I arrived at the meetings. Some of the students also said they felt a certain exclusivity in having the opportunity to participate in this practice period and several students discussed at various times during their practice how they felt like pioneers in the shift towards more interprofessional healthcare in the future. It may therefore seem that the students' specific actions and interactions in their groups, and their suggestions and responses there and then, which shaped their further action in the situation, were entirely the students' own, despite my presence and questions.

7.1.3 Theory that informs the study

My study is based on a certain theoretical worldview. Therefore, it is natural that this perspective will affect how I view reality and gather and interpret the data, which will thus also influence the results. As I have mentioned, it follows from a practice theory worldview that the researcher collects data about what people say and do while their interaction unfolds, because that is where we find information about people's learning (Nicolini, 2012). At the same time, my research topic is inspired

by the situation in the research field, which is that information must be generated about what students actually do in interprofessional learning activities in order to enhance knowledge of how they learn interprofessionalism, which the research community believes can be achieved through observational data. I therefore chose observation and informal conversations as methods of data collection, to enable me to listen to and see the continuous interaction between the students. My chosen methodological approach is thus not motivated by my own worldview alone but is also in response to the situation in the development of data in the research field, as described by the research community.

To draw on a particular theoretical view of reality is a recognized way of approaching reality in the research community and society. At the same time, the research community in the field of interprofessional learning recognizes that studies of student learning must be based on a clear theoretical perspective, in order to clarify the view of learning that underlies the results produced for those who use the results (Reeves et al., 2015, 2016, 2017; Thistlethwaite, 2012). According to O´Reilly (2012), every competent researcher will be influenced by one theoretical worldview or another, consciously or unconsciously, which will thus affect the results of the research. It is therefore important for researchers to be aware of their worldview (O´Reilly, 2012) and make this view transparent to the users of the results (Thagaard, 2013), as I do in Chapter 4.1 and here. In this way, the research community can discuss the results and compare them with other results and enhance knowledge in the field systematically. However, other researchers with a different theoretical worldview or drawing on a different theory might have noticed, described and understood the student interaction in a different way.

By pursuing the patterns I observed in the students' interaction on the basis of the sub-concepts of *mutual engagement*, *joint enterprise* and *shared repertoire* (Wenger, 1998), I focused on observing actions that may or may not be expressions of the three relational dimensions described by these concepts. However, as a researcher I will always be unable to notice all the actions that take place or are relevant in the wealth of actions at the micro level in the various interaction processes in the data I have produced, neither at the moment of observation nor at a later stage. This also applies to any absence of actions, which is also part of action and important in the interplay between people. In this way, I may refrain from mentioning actions that do not support the patterns that I describe. This does not mean that these actions and interaction do not exist. This type of limitation could apply to all research on human action, and from any theoretical perspective. Further, it was not my intention to pursue the sub-concepts in my interpretation of the patterns that I observe in the data in order to determine whether the groups are developing into communities of practice. Here I describe how the students appeared to have begun to develop the three relational dimensions, which could have been the beginning of a movement towards realizing a community of practice. At the same time, the students themselves stated that the group meetings gave them the most powerful experience of interprofessional collaboration among all the joint tasks they performed during their practice period.

7.1.4 Limiting the analysis of the data

According to Lim & Noble-Jones (2018), students state that they need the help of supervisors or teachers to structure the learning process in interprofessional education. Since I solely focused on the data from the group meetings, I did not explore and describe how the patterns that arose in the meetings were affected by the students' interaction with the interprofessional coordinator, their discipline-specific supervisors and the ward staff. Based on a practice theory understanding of the world, people as meaning-creating beings develop their knowledge continuously through ongoing

interaction with their environment (Nicolini, 2012; Wenger, 1998). This also implies that previous knowledge and experience affect all future interactions with the environment. This can therefore be assumed to apply to the students in this study. The interprofessional coordinator held weekly meetings with the students where the status of their work with the patients and the group process were discussed, and the students could always contact the coordinator if the need arose. The students also had discipline-specific supervisors who could be contacted as needed for questions about patient treatment related to their particular discipline. They also participated in the regular reports and meetings related to the patients and consulted and cooperated with the ward staff when they felt it was necessary or natural to do so. At the same time, the ward managers and staff were attentive and interested in the students' work and encouraged them during the process. These various forms of interaction could have had an individual and collective effect on the students' group interaction in ways that are not visible in this dissertation. It is therefore not possible to conclude that the group meetings and documentation meetings were the sole reason for the students' initial development of what can be understood as a community that realizes an interprofessional practice.

The basis for the analysis of the interaction in the group meetings is observational data in the form of audio files and field notes from meetings in two student groups through three practice periods, but I was not present in all meetings in all the groups, as described in Chapter 4.5.1. I therefore have no data from the meetings I did not attend, which may have meant that I missed relevant information about the interaction. However, I noticed that the interaction in the same group was similar from one meeting to another when I was present, which may mean that the time I spent in the various groups over time provided a sufficient data basis for an analysis of the patterns in the students' interaction. Despite this, other researchers might have seen different patterns or characteristics of patterns than I saw in the interactions. As mentioned, the researcher herself is the measurement instrument in social research and no two researchers are the same, because they possess different combinations of knowledge and experience (Blaikie & Priest, 2019). It is thus possible that visual and auditory observations of informants' actions and interaction patterns may be interpreted differently from one researcher to another. However, the students and I live in the same culture and have the same language and may therefore have similar cognitive and symbolic knowledge structures, as the practice theories suggest (Nicolini, 2012; Reckwitz, 2002). This may have enabled me to interpret and understand the students' verbal and non-verbal actions and patterns in the interaction. Further, healthcare is familiar to me as a context, in an academic, organizational and material sense, which enabled me to concentrate on the students' actions and interactions in their meetings.

As mentioned in Chapter 4.8.1, the data analysis started simultaneously with the data generation. I observed at an early stage that a pattern was forming in the students' interaction in their meetings. This pattern was also discussed in my supervisory team in addition to all the other activities initiated in the student groups. We also listened to and discussed parts of the audio material I had generated from the other meetings. When I later decided to focus on the meetings in this dissertation, transcribed parts of the audio files were jointly interpreted by the supervisory team and myself and we also discussed possible concepts from practice theory that could explain what was taking place in the meetings. Our numerous discussions on how to interpret and explain the students' interaction can be understood from a practice theory perspective as a joint learning process where the supervisors and I enhanced the depth and the breadth of our interpretation. After this, the pattern of the student interaction finally "fell into place" for me in terms of the concept of communities of practice. The

pattern might also have fallen into place for other researchers with the help of different theoretical concepts.

7.2 Validity

Validity implies assessing whether the answers produced in a study actually answer the questions, and thus also determining whether the research community accepts the validity of the findings (Tjora, 2012). Validity is strengthened by transparency about decisions made during the research process, such as methods of data generation and the use of theory. It is further enhanced by relating to previous research in the field, to enable knowledge within the field to be built up systematically (Tjora, 2012). In Chapter 4, I explain the choices I made in the course of my research. However, I will now elaborate further my choices of method and theory and the relationship between my study and previous research in the field.

7.2.1 Observation and informal conversations

Right from the formulation of the overall research question and the study aim, I related to previous research in the field to determine what information was needed to develop knowledge about how students learn in interprofessional learning activities, from the perspective of reviewers in the field. The reviewers also describe the research methods that seem relevant to generate the information needed to provide answers to how students learn. My methodological approach is thus not only meaningful to me, based on my practice theory worldview, but also meaningful to the research community in the field. Therefore, the methods I have chosen seem to be fundamentally valid in relation to generating information that can provide answers to my overall research question. Additionally, I explain the development of knowledge in the field in Chapter 1, as assessed by reviewers in the field. Further, my chosen methods in Chapters 4, makes it possible for me to judge the consistency of my own research process and enables the research community and other interested parties to assess the choices I have made. These choices form the basis of the results I arrive at, while also underlying the consistency of the research process itself.

In order to answer my question, I decided to conduct fieldwork, spending time with the students in their group meetings over several days. I observed their sayings and doings and talked to them in informal group conversations about what I had noticed. Sustained contact with informants over time is understood as a strength in qualitative research (O'Reilly, 2012; Creswell & Creswell, 2018), because the researcher's understanding of what is taking place can then take form over time (O'Reilly, 2012). However, it could be considered a weakness that I was alone in making observations and having informal conversations. As previously mentioned, the researcher is the measurement instrument in the interpretive research tradition and no two researchers are the same, because different researchers have different combinations of knowledge and experiences and thus different understandings (Blaikie & Priest, 2019). Other researchers might therefore have observed other aspects of the students' actions and interactions. Different combinations of knowledge and experience will also mean that other researchers might have interacted differently with the informants. They may also have explored other questions in different ways in their informal conversations with the students, which would have generated different data from the conversations.

7.2.2 The learning theory basis

In this dissertation, I also draw on previous research in the field in that my foundation is recognized learning theory, while I show how sociocultural learning theory informs the development of my research findings. This is one of the learning theories considered most important today in understanding how learning takes place (Illeris, 2018; Imsen, 2005; Lyngnes and Rismark, 2011). At the same time, the theory of communities of practice has been little used in research on students' interprofessional learning activities (Hean et al., 2009, 2018), as also revealed by my literature search in four thematically relevant databases. This study would therefore seem to enhance knowledge within the research field of interprofessional learning by using learning theory that is relevant today, while also representing a possible area for the use of the theory of communities of practice.

7.2.3 Dialogue with the research community

Tjora (2012, p. 206) considers that the validity of a social science study is tested communicatively through dialogue between the researcher and the research community in the field, both locally and elsewhere, in conferences and through publications in scientific journals. This study was presented and discussed with the research community both locally and with others and in conferences, while the sub-studies were being developed. The three sub-studies that form the basis of this dissertation were also tested in dialogue with the research community through reviews and revisions, and were then published in journals of research on interprofessional education. In my understanding, the sub-studies would thus already seem to be valid contributions to knowledge development in the field. Nevertheless, it is still for individual research communities to decide.

7.3 Generalizability

There is currently a debate in social research about whether it is necessary to generalize the findings in qualitative studies, and whether the development of in-depth knowledge in a given area is sufficient in itself (Tjora, 2012). This approach to the results of research leaves it to those who use the results to assess their validity for their own research. O'Reilly (2012) describes this way of understanding the value of the results as rejecting any further relevance that the results may have. What is learned can be important for others and a description of how theory can inform the interrelationship of elements in one situation can be of value in other situations.

The students explored in my study decided to work in untraditional ways in developing their own form of interprofessional collaboration, by using time and space for regular meetings to share information and discuss patient care across professional boundaries. Drawing on an understanding that interprofessional work is a social practice and on Wenger's (1998) learning theory, I understand the development of the interaction in the student groups as suggesting that they were on their way to developing a social practice. At the same time, this means that the interaction between the students involved complex learning. The students' open and meaning-seeking and creative nature thus seemed to be a key resource in their learning process. However, according to Wenger (1998), two different groups of people will not pursue the same goal in completely identical ways, even if both groups achieve the goal. Each group will move towards the goal based on its own particular situation and the interaction that arises between the group members. This also implies that each community of practice develops in a unique way (Wenger, 1998). Nevertheless, the interaction patterns that I describe as emerging between the students in their meetings emerged in all groups. Yet there was some variation in what other work the students decided to interact on, in how they interacted and in their opinions on

or involvement in the work over the course of the practice period. The fact that all the student groups developed a similar interaction pattern in the meetings, even though they interacted in different ways between the meetings and provided different reasons for this, may mean that other students can also develop the same pattern in similar learning activities in interprofessional group meetings. Therefore, the results of this study may inform the development of interprofessional learning activities in education by suggesting that students are meaning-seeking and creative people capable of developing their own work in patient care and in learning across professional boundaries, when given responsibility for doing so. However, the students in this study were at a late stage of their education and had therefore already gained much of the professional knowledge and skills needed in their future work. The findings might have been different if the students had been at the beginning of their programmes. In addition, they participated voluntary.

According to Blaikie & Priest (2019), the presentation of the results in qualitative research is what the unique researcher learns through the research process. From this point of view, the description of the research process in in Chapter 4 describe my learning process. The description of the research methods and theory I have used, may also be meaningful for other researchers who wish to explore interprofessional learning.

8 Conclusion

In this dissertation, I have produced new knowledge about how health profession students near the end of their programme learn in voluntary interprofessional education. In doing so, I have drawn on assumptions and concepts within practice theory and examined the interaction taking place between students in interprofessional group meetings while they independently developed interprofessional healthcare for real patients. The study shows that the students developed close mutual engagement, a multi-professional knowledge base and multidimensional descriptions of patients, through their interaction in the groups. The group interaction process may suggest that the students were beginning to develop the three relational dimensions that Wenger (1998) describes as fundamental in the development of social practices, namely mutual engagement, joint enterprise and shared repertoire. The students may thus have been on their way to developing, and thereby learning, interprofessional collaboration in their groups. My interpretation is that this development took place because the students were meaning-seeking and creative people who fulfilled the mandate they were given to work independently; they first established themselves as an experimental partnership across the professions in their groups, making patients' condition the object of their common focus, after which they created time and space in their schedules to hold regular group meetings to jointly discuss patients' situation and care in a kind, attentive and respectful manner.

The results in this dissertation contributes to the growing knowledge base of interprofessional education in general and especially within the area of observational studies informed by theory.

8.1 Further research

This study concludes that the work that developed across professional boundaries in the student groups, and which could represent the beginning of long-term interprofessional work, was the result of a joint meaning-seeking and creative process among the students. The results show that the students' meaning-seeking and creative abilities were of great importance for their doings when they interacted across professional boundaries and for what they achieved through the measures they took based on the opinions and ideas they developed themselves. The results also suggest a possible approach to the generation of knowledge about student learning that differs from the approach generally used in the field today, which is that students report what they learn in different learning activities based on given topics and variables. This new approach examines how students' meaning-seeking and creative abilities are used in the learning process and what is achieved, which provides knowledge of how students learn in addition to what they learn. It would therefore be interesting to conduct further studies of how students use their meaning-seeking and creative abilities, not only in the same type of learning activities as in this study, but also in other forms of interprofessional learning. This could enhance our knowledge of students' meaning-seeking and creative abilities, of whether the use and mobilization of these abilities is similar or differs across a variety of learning activities and of what is achieved when students' opinions and ideas are translated into action.

The knowledge generated in this study was based on data from observations and conversations. Researchers in the field believe that qualitative studies, particularly observational studies, could further enhance our current knowledge of interprofessional learning (Kent & Keating, 2015; Olson & Bialocerkowski, 2014; Reeves et al., 2017). This is because the knowledge we have today about student learning is largely based on information generated from the use of various self-assessment tools (Almoghirah et al., 2021; Kent et al., 2017; Marion-Martins & Pinho, 2020; Oosterom et al.,

2019; Reeves et al., 2016). Therefore, our knowledge of students' interprofessional learning is also largely informed by what the students can and want to report about their own learning, thus not necessarily what they actually do or would do in activities where interprofessional interaction takes place (Almoghirah et al., 2021; Fox et al., 2018; Kent & Keating, 2015; Granheim et al., 2018; Reeves et al., 2016, 2017).

Studies that generate observational data could provide information about what students actually do when they act beyond their own professional boundaries during learning activities (Kent & Keating, 2015; Olson & Bialocerkowski, 2014; Reeves et al., 2017). By observing and talking to the students during their practice period, I generated data about their sayings and doings in specific interaction situations, about developments in their interaction over time and also about what they themselves thought about what they did and learned. The data that form the basis of the knowledge I develop in this study are therefore more complex and provide different information than the students could have given me solely through self-reporting their actions and learning, whether completing a self-assessment form, answering certain questions or speaking freely in an interview. The data I generate also enables me not only to see the students' specific sayings and doings, but also to realize that they are meaning-seeking and creative in their collaboration, in order to improve their knowledge and skills in interprofessional work. I have thus been able to produce new knowledge of how students learn interprofessional collaboration in joint practice. I therefore share the assumption in the field that qualitative studies, particularly observational studies, can provide data that will deepen our current knowledge of student learning and consequently I support the call for further studies of this kind.

However, the observational data are insufficient per se to develop the knowledge produced in this dissertation. Researchers in the field also point out that there are a variety of views on learning, and that studies of student learning must therefore clearly state the view of learning on which the research and findings are based (Reeves et al., 2015, 2016, 2017; Thistlethwaite, 2012). A vague perspective on learning may mean that the researcher is not aware of the view of learning that underlies her research (O´Reilly, 2012), and thus does not ensure that the findings are generated in a consistent manner. Further, when the view of learning is unclear, other researchers would be unable to evaluate and discuss the results or to compare them with those of other studies in their efforts to enhance understanding of what interprofessional learning consists of.

In my study, the analysis and interpretation of the observational and conversational data generated are based on a general view of practice theory, particularly Wenger's (1998) theory of learning in communities of practice. This theory enabled me to notice, describe and understand the information in the data about the interaction that developed between the students during their practice period. The learning theory perspective I use is thus a prerequisite for the specific knowledge developed. It would therefore be interesting to conduct new studies of student learning in both similar and different interprofessional learning activities, based on the same theoretical perspective and concepts, which could elucidate and further develop the knowledge suggested by my study.

However, at the same time, from a meta-perspective that for me was inspired by a practice theory worldview, I share the assumption of other researchers in the field that different research approaches can generate different information about students' learning processes, just as we see that observational data provide different information from self-assessment data. I also share the opinion of the research community that different theoretical perspectives on learning, by emphasizing different learning processes, enable the researcher to notice, describe and understand interprofessional learning in

different ways. For example, practice theories focus on social rather than mental processes in learning. We therefore need a range of research approaches and theoretical perspectives in our future quest for knowledge to gain greater insight into interprofessional learning.

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Article 1

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Article 2

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Interprofessional Education: Students´ Learning of Joint Patient Care

Abstract: This study examines how patient care is developed in meetings between students of occupational therapy, physiotherapy, nursing and medicine who are allowed to shape their own interprofessional collaboration. We conduct a thematic interpretative analysis of audio recordings and observations from the meetings and informal talks with the students. The analysis draws on traditions in sociocultural learning theory that deal with interaction on something in common between actors with different knowledge bases and the consequences of this interaction. The analysis showed that the students developed collaboration in patient care by sharing, assessing and determining professional knowledge of patients' health conditions collectively. In conclusion, we argue that the students learned to use a multiprofessional knowledge base in the design of patient treatment when they were given responsibility to create the collaboration themselves. This demonstrates that students can be encouraged to independently develop professional collaboration in patient care within interprofessional education.

Keywords: Interprofessional education, collaboration, student meetings, community of practice, joint enterprise, boundary crossing, fieldwork

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In the late 1970s, interprofessional teamwork arose as a global healthcare trend (WHO, 1988). This trend was based on an understanding that health workers with different professional skills work more efficiently in interprofessional teams than individually (WHO, 1988). The World Health Organization (WHO) has since followed up the trend and encouraged interprofessional education (IPE) in the education of health professionals (WHO, 2010). Interprofessional education takes place when students from two or more professions learn about, from and with each other (WHO, 2010). The objective of IPE is for students to learn how to collaborate effectively in interprofessional teams when they start employment and thus help to optimize healthcare (CAIPE, 2017; WHO, 2010).

A recent synthesis of systematic reviews shows that IPE has a positive effect on students (Reeves, Palaganas & Zierler, 2017). The students' attitudes to each other improve and they acquire knowledge and skills in collaboration (Fox et al., 2018; Reeves et al., 2016), especially when participation is voluntary (Reeves et al., 2016). Further, when IPE is facilitated in realistic contexts, it leads to particularly good learning outcomes (Fain & Kennell, 2016; Reeves et al., 2016). The review articles show that students enjoy interacting in authentic learning situations (Granheim,

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Shaw & Mansah, 2017) and that this improves their communication and cooperation skills (Granheim et al., 2017; Kent & Keating, 2015).

However, these positive findings mainly rest on learners' self-reported experience (Granheim et al., 2017; Kent & Keating, 2015; Reeves et al., 2016, 2017). For this reason, more observational studies are needed to show how students learn in IPE (Kent & Keating, 2015; Morgan, Pullon & McKinlay, 2015; Olson & Bialocerkowski, 2014; Reeves et al., 2017). Interprofessional collaboration is complex; we, therefore, need knowledge of what actually takes place in this form of collaboration (Kent & Keating, 2015; Morgan et al., 2015). For example, observational studies have shown that a favourable physical environment and time for the informal talk are important for joint knowledge generation, goals, and decisions (Morgan et al., 2015). Students who are allowed to adopt their own professional role in role-play have a particularly positive view of interprofessional collaboration (van Soeren et al., 2011) and demonstrate complex collaborative skills in direct patient care (Turrentine et al., 2016).

In this article, we explore how students of occupational therapy, physiotherapy, nursing and medicine who are allowed to shape their own interprofessional collaboration learn such collaboration in patient care. In order to gain insight into the students' learning processes, we used ethnographic methods in the data collection and drew on Lave & Wenger's (1991) sociocultural learning theory and the concept of community of practice to explore how basic interaction and collaboration processes can take place. The concept of community of practice is regularly used to describe work in practice in health and social care (Hean, Craddock & O'Halloran, 2009) and to support IPE interventions (Hean et al., 2009, 2018). However, the concept has seldom been used in exploring how learning in IPE takes place (Hean et al., 2009, 2018), which is precisely the goal of our study.

One general assumption in sociocultural learning theory is that learning is achieved through social processes (Hean et al., 2009; Wenger, 1998) which mediate cognition and motivation on the individual level (Schoor, Narciss & Körndle, 2015). A further assumption is that the pursuit of common goals is fundamental to human interaction and can lead to the establishment of communities of practice (Lave & Wenger, 1991; Wenger, 1998). A community of practice evolves when the participants jointly develop and learn its three constituent components, namely *mutual engagement*, *joint enterprise* and *shared repertoire* (Wenger, 1998). The goal is achieved through the shared development and learning of the three components.

In our study, we limit our research to how one of the three components constituting a community of practice, namely joint enterprise, is developed and learned in students' group meetings. Joint enterprise refers to the activities participants implement and commit to in order to achieve a common goal (Wenger, 1998). The goal of interprofessional collaboration is that different professions should share responsibility for problem solving and decisions in patient care (CAIPE, 2017). In order to realize such collaboration, the professions must draw on each other's knowledge by performing work that is not confined to the limits of their own profession. Joint enterprise in interprofessional collaboration can, therefore, be understood as crossing professional boundaries. In order to observe and describe the development of such work among students, we use the concepts of boundary crossing and boundary object from sociocultural learning theory. These concepts indicate sociocultural differences between specialized practices and suggest how links between the practices can still be established (Akkerman & Bakker, 2011). We analyzed the data using the practical iterative framework for qualitative data analysis (Srivastava & Hopwood, 2009). The research question underpinning our study is: How do the students realize the goal of interprofessional collaboration in patient care in group meetings and what do they achieve through their actions?

Based on our observations of the students' group meetings and students' reflections on the activity during these meetings, we aim to describe and explain how the students themselves take on an active role in organizing their collaboration on patient

care in the meetings and what consequences the students' actions have on patient care.

Theoretical framework

According to the sociocultural learning perspective, goal achievement and learning take place through ongoing negotiations about what creates meaning between people, or between people and objects, culture or history (Lave & Wenger, 1991; Wenger, 1998). In pursuit of the goal, people connect what they already know to what they do not yet know (Wenger, 1998). Because different people have different knowledge and skills, it is natural that there should be disagreement and unequal power between people. Learning thus takes place informally and in any context and can create, maintain and change social practices. However, contemporary society rests on a foundation of professional practices. These require specific types of knowledge of the participants, thus creating boundaries for membership. At the same time, societal productivity requires collaboration between different professions to avoid fragmentation and promote development (Akkerman & Bakker, 2011; Wenger, 1998). This implies that people must cross boundaries, that is, create environments to negotiate and combine different expert knowledge to develop new and more complex knowledge (Akkerman & Bakker, 2011; Wenger, 1998). However, boundary crossing does not mean that people adopt each other's basic professional perspectives. In order to cross over into another professional perspective, professionals must have something to collaborate on. The interconnection, therefore, takes place by means of *boundary objects*, that is, various entities that bridge gaps between different professional perspectives (Akkerman & Bakker, 2011; Wenger, 1998). The consequence of the interconnection is that all professions cross their knowledge boundaries and develop knowledge of the object on a multiprofessional basis.

As already mentioned, we focus solely on the development of the component of joint enterprise in the group meetings initiated by the students, that is, the activities students develop and take responsibility for, in order to achieve the goal of interprofessional collaboration on patient care in their meetings. The students represent different professional practices at the start of their practice period, where they are expected to draw on each other's professional knowledge in designing interprofessional patient care. In order to explore how the students reached the goal of interprofessional collaboration on patient care, we used the concept of *boundary crossing.*

In the present article, our premise is that students are goal-oriented individuals who negotiate meaningful activities in order to cooperate interprofessionally during their practice period. We define students' group meetings as *sites of knowing* (Nicolini, 2011), illuminating a point in time and space where we can observe knowledge being developed. We focus our attention on identifying the actions the students implement and take responsibility for in order to collaborate on goal achievement.

The disadvantage of exploring IPE using sociocultural learning theory is that the individual's psychological processes and needs in the learning process receive less attention (Hean et al., 2009; Schoor et al., 2015). Further, illegitimate use of power by participants is interpreted as harmless disagreement and informal aspects of learning arrangements are romanticized (Schoor et al., 2015). Both researchers and consumers of research must be aware of this.

Methodology

In a sociocultural learning perspective, human actions are understood as social and knowledge-based practices in which meanings are continuously created and recreated (Lave & Wenger, 1991; Wenger, 1998). Based on our understanding of learning

and our research question, the students' interaction to find out how to realize interprofessional collaboration was seen to be relevant as a data source. We were therefore inspired by ethnographic methods of data collection and developed process data on student interaction and collaboration through observation of their activity and informal talks with the student groups. We then developed process knowledge about the students' interaction and collaboration through a repeated movement back and forth between the process data and theory to find answers to our research question.

The interprofessional intervention under study

In our study, we investigated students participating in an interprofessional educational intervention facilitated by a university in collaboration with three municipal health services. Fifth-year students of medicine and third-year students of occupational therapy, physiotherapy, and nursing volunteered to participate and were organized into four groups that contained one student from three of the four professions, and five groups that included one student from each of the four professions. The students had not previously collaborated during their studies. Each student group was given joint and independent responsibility for pre-selected patients. The students were asked to work out themselves how to collaborate interprofessionally on patient care on the basis of their particular knowledge and skills at the start of the practice period. The students did not receive any specific training, guidelines or learning outcomes before the practice period to aid their collaboration. Each student group had a two-week practice period between February 2014 and February 2015.

A member of the staff of the local health services served as an interprofessional coordinator. The coordinator introduced the students to the health services, arranged up to two meetings with the student group during the period, answered questions from students on interprofessional issues and facilitated the final discussion. There was also a representative of each of the students' professions to answer specific profession-oriented questions from students. The students also had to report to and collaborate with the health services.

Data collection

The first and second authors generated data from different types of student activity throughout the practice period. The fourth author observed two student group meetings. The authors noted down their observations during or shortly after each student activity. Their notes emphasized in-depth descriptions of what they perceived to be the focus of the students, the content and form of student interaction and any patterns revealed. The students' interprofessional meetings and the first author's informal talks with the student groups after the meetings were audio recorded.

Ethics

The research project was approved by the Norwegian Centre for Research Data (NSD) in July 2013 (Approval No. 34895) and by the Regional Committee for Medical and Health Research Ethics in September 2014 (Approval No. 2014/1659).

Analytical strategy

The data for the thematic content analysis in this article are field notes and audio recordings from twenty-six interprofessional student meetings in six student groups and twelve informal talks between the first author and the six groups. Three of the groups completed the placement in a geriatric rehabilitation ward and the other three groups in a short-term nursing home. Two meetings in each student group were transcribed. The other meetings were listened to several times and compared with the

transcriptions and further compared with the observations recorded in the field notes from the meetings. We specifically searched for how the students took an active role in organizing their collaboration on patient care in the meetings and what consequences the students' actions had on patient care. In the analysis, we moved back and forth between data and theory by following the principles of the iterative questions from "A Practical Iterative Framework for Qualitative Data Analysis" (Srivastava & Hopwood, 2009). The framework guide researchers to ask themselves what the data is telling them and what they want to know. Through the repetitive back and forth movement between data and theory, one main theme and three subthemes emerged in the data. The main theme was the patients' health condition and treatment and the sub-themes were: a) sharing professional perspectives on patient care b) collective assessment of the information shared, and c) joint decisions on patient care. Typical examples of the content of each sub-theme were condensed. The students' reflections on discussions of patients' health condition and treatment in the group meetings in the informal talks with the first author were then listened to several times and compared with the sub-themes and related expressions were condensed. We found that the students collaborated closely on patient care in their interprofessional meetings by developing a multiprofessional knowledge base for patient care. All four authors were involved in the interpretation of the data

Findings

We observed that a typical feature of the interaction in the student groups was that the students spontaneously and immediately stated that they wanted to give the patients care and treatment as an interprofessional group and planned to discuss what to do with the patients as soon as they received information about them. In this way, the students placed the unique situation of the patients in the centre of their shared professional attention and agreed to include each other in the decisions about the patients' care from the start. As one nursing student in group four explained to author A.C.G. in the corridor on the first day of placement:

> We have to get some information about the patients first to know what to collaborate on. We're not going to collaborate just for its own sake, that would be pointless.

After the first group meeting, meetings became the most frequent and regular form of interprofessional interaction in the student groups throughout the practice period. Our analysis shows that the main theme of the students' discussions in the meetings was the patients' situation and treatment. In this context, the students focused on three main areas: a) sharing professional perspectives on patient care b) collective assessment of the information shared, and c) joint decisions on patient care on the basis of the knowledge developed collectively. We describe below how these three focus areas were manifested and how each focus area taught the students to interact with each other in order to reach the goal of working together as an interprofessional group in their meetings.

Sharing professional perspectives

We observed that the sharing of professional perspectives in the meetings was typically achieved by the students spontaneously telling fellow students what they had learned about a patient by reading information, listening to an oral report, talking to the staff on the ward or other people, and observing the patient themselves. They also made sure that all students were given time to share their information before the meetings ended. This was achieved by taking turns and allowing one student to finish

sharing before another took over, and by listening to each other. In the example below from day eight of placement, the students in group five talk about how they experienced the sharing of professional knowledge in their meetings:

> "We listened to each other," said the nursing student. "We wanted to know everything from everyone, so there were four times as much information as there usually is," continued the physiotherapy student. "And we also explained why we do things the way we do," added the occupational therapy student.

Students in all groups reported discovering that they gained more comprehensive and coherent knowledge of patients' health and treatment when they shared knowledge than they could have acquired alone. In the quotation below from the third day of the practice period, the physiotherapy student in group two gives an example of this learning effect:

> The physiotherapy student looked at the nurse student and said, "For example, you've focused on the patient's nutrition and dental status. That's not the first thing I think about. What I think is that the patient is sitting still a lot and it's making him lethargic. In this way, we remind each other that there are several things involved and we avoid having one of us fix one thing while the other one fixes another thing. You can see that things are actually connected and fluid in a patient."

In addition, the students realized that they reached decisions on patients' complete needs for care and treatment more rapidly than they could have done individually. The physiotherapy student in the example above also recognized this effect when continuing her explanation:

> By sharing different situations, different roles, different expectations, you get a more complete view of the patient and so you understand faster what the patient's situation is really all about.

We also observed how students explained the meaning of professional terminology to each other in the meetings. Some students spontaneously altered their language by replacing difficult terminology with everyday words, sometimes when fellow students asked for explanations. In the example below from day two of the practice period, the medical student in group two spontaneously explained "status praesens", a term used in Norway, to other students:

> I thought, but I want to hear what you think about it, I'd do a complete check of status praesens. That means the nerves in the brain, sensitivity of the face, heart, lungs, stomach and all the pulses.

Students in all groups reported finding that they had to explain professional knowledge to fellow students or ask them for explanations. The example below from day seven is part of a reflection among students in group five about terminology:

> "A physiotherapist knows a lot about movements and analysis and can say where the problem lies, whether it's in a muscle or anywhere else. But it's often been a challenge to understand what you actually said and meant. There are so many words and expressions when you describe a patient's functioning," said the medical student, looking at the physiotherapy student. "Yes, we have a slightly different language and it's been challenging to change it into a language that you all understand," replied the physiotherapy student.

Through sharing professional perspectives on patient situations by encouraging turn-

taking, being friendly and interested in communicating and listening, and explaining any professional observations, examinations, assessments, and terminology, the students orientated themselves across professional boundaries and showed how a potential multiprofessional knowledge base was the basis for their practical work with patients.

Collective assessment

We observed that a typical aspect of the students' collective assessment of the knowledge sharing in the meetings was that they spontaneously responded to the information they received from the others. In the quotation below from day three of the practice period, the nursing student in group four explained that interprofessional collaboration is about assessing and exchanging opinions on the information received from one's own professional perspective:

> I'd say that you need to listen to what the others have done and what they think and try to see it from a nursing perspective. Let's say that the occupational therapy student and the medical student are discussing mobilization. Then you have to join in the discussion from a nursing perspective.

We also observed that the students began to jointly assess shared knowledge through polite requests, spontaneity and friendly encouragement in asking questions or discussing or supplementing the information provided. They then received friendly and helpful responses. In this way, they attempted to find out about a patient's situation by gaining insight into the details and depth of the information. This enhanced insight might place the information in a different context from the one originally communicated. The example below is from day two of the practice period. The medical student and the occupational therapy student in group six were reporting their observations from morning care of one of the patients. The nursing student's question places the shared information in a new context and leads to a discussion about possible treatment:

> "He did fine," said the medical student. "Yes! It was easy for him to climb out of bed and stand upright," continued the occupational therapy student. "How was his dizziness?" asked the nursing student. "He didn't show any dizziness," answered the medical student. "Did you ask him about it?" asked the nursing student. "No, we didn't," answered the medical and occupational therapy students in one voice. There was a short pause. "He used a walker and then he walked steadily. He could stand, but he had to hold on to things. He's probably afraid of falling," said the medical student calmly. "I'm sure it'll be good for him to practice walking. Maybe there are steps here we can use for practice," said the occupational therapy student.

The discussions between the students continued until no one had any more to say. The students also spoke in a friendly tone when they disagreed. The example below is from a meeting on day six in group three, and shows how the students handled disagreement:

> "I'm not sure about the quality of his morning care if he had to do it by himself; I've only been with him once," the nursing student said. "As long as he has access to what he needs, he manages it quite well, I think, if it's just basic morning care," the occupational therapy student answered. "Here, it's quite obvious that you as an occupational therapist focus on what he can manage, while I focus on what help he needs. I'm not sure about his fine motor skills in his right hand. What's more, he's not allowed to use his left arm. What quality will there be?" the nursing student said eagerly and looked at the occupational therapy student. "Yes,

> that's the question," the occupational therapy student replied. "That's good then, isn't it? You focus on the help he needs, the weaknesses, while you focus on what he can do without help," said the medical student, looking from one to the other and they all start laughing.

The students in all groups stated that discussing the patients' situation in detail from different professional perspectives gave them insight into other students' perspectives and greater awareness of their own. In the quotation below from the end of the practice period, the occupational therapy student used the example above to explain about the learning that took place in the discussion with the nursing student:

> It's like that example of taking a shower we had before. My lens included resources, limitations and functioning, while the nursing student was looking more at quality. And it's a bit like that in the training we're having now, when we talk together every day we discuss what each one of us has seen. Then my occupational therapy lens gets a new dimension, because it's not just a matter of functioning, resources and limitations.

By collectively assessing a patient's situation, that is, responding to the information shared in a friendly and interested manner, the students negotiated and combined knowledge across professional boundaries and developed new and more complex knowledge about the patients.

Joint decisions

We noticed that students' joint decisions about patient activities typically consisted of a spontaneous clarification of what each of them could do for the patients. In the quotation below from day eight of the practice period, the medical student in group three explained that interprofessional collaboration was about reaching joint conclusions about the work to be done on the basis of the information that all the students had shared and discussed:

> It's important to form your own thoughts and opinion about the patient's situation, discuss these with the others, be open for their input, and jointly reach a conclusion on causes and actions. We should use all the knowledge we have and listen to each other; six eyes and three brains instead of just one.

A further observation was that the students reached joint decisions on assessment and treatment by individually suggesting activities that they themselves, fellow students or several students together could do in relation to parts or the whole of a patient's situation; the other students would then give their opinion on the suggestions. Sometimes the students decided to take a broad view and make an assessment including all the students' perspectives on behalf of the group. On other occasions, they decided to approach the patient's situation on the basis of the perspective of a single student. In the example below from the eighth day of the practice period, the students in group one decided to use two students' perspectives as the basis for their action:

> The medical student had observed the patient during his morning care and felt that his cognitive impairment had deteriorated. He offered to speak to the ward doctor to find out whether the patient should undergo new tests. "I don't think there's been any cognitive change since before the weekend. For example, he could easily remember what he'd done the day before," said the physiotherapy student. "But the patient is worse in your assessment today?" the nursing student asked the medical student. "Yes, that's my impression today," replied the medical student. "I think our impression is different from yours because we've had a lot

> of contact with the patient during his training and so on. You haven't spent as much time in real situations with the patient as we have," said the occupational therapy student to the medical student, referring to herself and the physiotherapy student. The conversation continued about observations of the patient and the physiotherapy student assessed that the patient was still at an early stage of rehabilitation. After a while, the medical student agreed that the students could wait and see how the patient's cognitive state developed and continue the training as planned.

The students stated that they came to realize that patient treatment quality depended on the fact that they all ensured that decision-making processes had a broad knowledge base. On day seven of the practice period, when group six were reflecting on what they had learned, two students said:

> "You're responsible for your own field, other students don't always suggest what needs to be done, so then you have to suggest it yourself," said the physiotherapy student. "And if you don't know what the others can do, you don't know what's the most sensible solution," said the medical student.

By taking joint decisions about their work with the patients, which involved making and evaluating suggestions for care and treatment across professions, the students translated the multiprofessional knowledge arising from their discussions into care actions.

The students received spontaneous support from the interprofessional coordinator, the ward staff and the management of the health services for spending time to get together and talk; there were no objections to their meetings, they were given meeting rooms and the patients received adequate care while the meetings were taking place.

Discussion

We base our analysis on the notion that a community of practice is constituted by a number of individuals pursuing a common goal and developing mutual engagement, joint enterprise and shared repertoire (Wenger, 1998). By specifically focusing on the dimension of joint enterprise, we were able to reveal that the students had a common goal for their collaboration in the groups and that they realized the goal in a way that concurred with the type of joint enterprise that Wenger (1998) describes as necessary for the development of a community of practice. We answered our research question How do the students realize the goal of interprofessional collaboration in patient care in group meetings and what do they achieve by their actions? by describing and explaining how the students took an active role in exploring and exploiting their different professional perspectives on patient care and learned to collaborate on patient care based on multiprofessional knowledge when allowed to shape collaboration in the student groups themselves. Our findings support previous findings showing that students develop collaborative knowledge and skills by participating in IPE (Fox et al., 2018; Reeves et al., 2017), particularly when IPE is facilitated in realistic contexts (Fain & Kennell, 2016; Reeves et al., 2016).

Joint enterprise is a collective process in which the participants define a goal, negotiate how to pursue the goal and commit themselves to contribute to the achievement of the goal (Wenger, 1998). With the help of the concept of joint enterprise (Wenger, 1998), our data revealed that on the very first day of meeting each other the students declared a common goal of succeeding in collaborating on patient care, in accordance with their mandate for the practice period. By supplementing the concept of joint enterprise with the concepts of boundary object and boundary crossing, our data also revealed that the students defined the patients' health situation as

their area of focus and conducted and committed themselves to a continuous multiprofessional dialogue on patients' health situation to achieve the goal of the placement.

The students developed patient care as joint enterprise by immediately deciding to collaborate on patient care as a common goal. In this way, they explicitly stated that they collectively made the goal of the educational intervention the goal of the group for the practice period. After this, in order to realize the collaboration, the students figured out what to do to achieve the goal. The students agreed that the patients' health situation was the centre of their joint attention and that they had to discuss this in order to collaborate on patient care. In this way, the students made the patients' health situation into what they would collaborate on and through which they would communicate their different professional knowledge to each other. In a sociocultural learning perspective, the patient's health situation could be understood as a boundary object, that is, a relevant interaction focus that all students are interested in and can relate to without having the same profession and without needing to adopt each other's professional perspectives.

Following this, the students decided to arrange an initial group meeting because they as professionals had different focus areas and ideas about the work they could do with patients. In this way, the students spontaneously established a specific setting in time and space for the multiprofessional exchange of knowledge about the patients' health and treatment. According to Morgan et al. (2015), time and space for dialogue are necessary to enable interprofessional groups to create and maintain interprofessional goals, knowledge, and decisions in patient care. By deciding to meet to talk about patient situations, the students laid the foundation for boundary crossing. The students thus drew a parallel between interprofessional collaboration on patient care and the exchange of professional knowledge of a patients' situation to jointly ascertain what the situation of the patient actually was. The students' early decision to hold interprofessional meetings to discuss patients may have enhanced their self-esteem and prioritization of further meetings since they learned that such discussions helped them consider patients' assistance needs from different professional perspectives and develop a multiprofessional informed basis for patient care.

Our interpretation is that the interprofessional discussions started because the groups were given independent responsibility for jointly providing real healthcare to preselected patients and because each student had responsibility for the care provided by his or her own profession. The students, therefore, needed to gain insight into other students' assessments and opinions and to present their own in order to provide comprehensive patient care. By regularly discussing the patients' situation, they developed knowledge that enabled them to provide care individually and as an interprofessional group. The students thus deepened their understanding of the importance of combining knowledge and assessments of a patient's condition across professions. They came to realize the significance of interprofessional dialogue for patient care and they continued to interact in the same way throughout the period. Previous research has also shown that students develop and improve their skills in communication and interaction when participating in IPE that facilitates the practice of cooperation in authentic situations (Granheim et al., 2017; Kent & Keating, 2015; Turrentine et al., 2016). From a sociocultural learning perspective, this can be understood as meaning that the students, as meaning-creating and goal-seeking individuals, linked their prior knowledge with the knowledge they developed in the interaction, thus creating new knowledge and new ideas about what was good patient care and good collaboration.

The rationale of interprofessional health education is that students should learn to practice effective interprofessional collaboration to provide optimal healthcare to patients (WHO, 1988; WHO, 2010). Here, collaboration means joint problem solving and decision making in patient care (CAIPE, 2017). Therefore, a prerequisite for the development of interprofessional collaboration is that the participants define joint patient care as a common goal and draw on each other's resources to achieve

the goal. In order to benefit from each other's professional resources, students must be given the opportunity to exercise their own profession in their training. Previous research has shown that it is important for students to exercise their profession in IPE (van Soeren et al., 2011). The students in our study utilized each other's knowledge and assessment capabilities and developed multiprofessional knowledge in patient care when given independent responsibility for providing care as a group, while each student also had individual responsibility for providing treatment from his or her own profession. The students achieved the common goal by making the patients' health situation the object of joint attention and by crossing professional boundaries in their dialogues on the patients' situation with each other and themselves. Wenger (1998) argues that joint enterprise must be negotiated and learned by the participants. In our view, the discussions developed by the students enabled them to learn to relate and integrate their professions in the group process. The students did this by setting aside time to share, discuss and clarify knowledge, assessments and actions with each other by moving back and forth between professional perspectives and they continued to set aside time for this throughout their practice period. In this way, the students could adjust their individual professional competencies and responsibilities for the care provided to conform to the group thinking. At the same time, they learned the importance of interprofessional collaboration for the optimization of the healthcare provided to their patients. The findings reveal that the students' natural meaning-forming process was exploited by organizing them in interprofessional groups and giving them independent responsibility for providing relevant healthcare to their patients. A further important factor was the support provided by the coordinator, the ward staff and the management of the health services for their choice of spending time on regular discussions. The students' natural negotiation and learning process led to the development of a deep understanding of each other's and their common competence and responsibility to reach the goal of the group. Our findings are also consistent with previous findings in IPE, showing that students not only enjoy, but also improve their communication and collaboration skills, in authentic learning situations (Fain & Kennell, 2016; Granheim et al., 2017; Kent & Keating, 2015; Reeves et al., 2016; Turrentine et al., 2016), especially when participation is voluntary (Reeves et al., 2016) and when they can practice their profession (van Soeren et al., 2011).

We have based our process research on Wenger's (1998) concept of joint enterprise, supported by the concepts of boundary object and boundary crossing, and shown that students in a self-organized interprofessional learning situation are able to collaborate on patient care when they have this as their objective and set aside time to discuss patients with each other. We have also shown how an interprofessional educational intervention can rely on students' prior knowledge on entering IPE and support students' natural learning processes throughout the placement. Our findings contribute new knowledge of what students learn and how they learn, by showing that their joint enterprise and its depth could be observed and articulated among the students as it was being developed in their groups. Our findings also provide new knowledge of how the components of the educational intervention influenced the development of joint enterprise in the student groups. These components were as follows: a predefined mandate, voluntary participation, interprofessional groups containing one student from each profession, final-year students, exercise of one's own profession, clinical practice, independent responsibility for developing collaboration, independent responsibility for patients, availability of resource persons such as an interprofessional coordinator and a contact person for each profession, a two-week time frame, municipal health services as field of practice and support to the students in trying out forms of collaboration. The components may be transferable to other educational interventions. We have not found our description of student learning of joint enterprise in other research on interprofessional education.

Limitations

The students volunteered to participate and were positive and motivated to engage in interprofessional collaboration even before the practice period started. This may have led to a bias in our findings, as voluntary participation in IPE has a particularly positive effect on student learning (Reeves et al., 2016). Some students also expressed a feeling of exclusivity due to the research focus on them. Some students reported achieving deeper reflection on student activity through the informal talks with the researcher during the practice period. Further, the students' collaboration was encouraged by the interprofessional coordinator, the ward staff and the management of the health services during the period. This general positive attitude towards the students from the various actors involved may have strengthened the students' motivation to collaborate in the groups.

Nevertheless, the students developed their collaboration on patient care on the basis of their prior knowledge and skills and ongoing negotiations of meaning with each other and the information and personnel involved. The goal stated and realized by the students in their meetings may, therefore, be seen as their own negotiated response to their particular situation.

In this article, we have limited ourselves to exploring students' collaboration in and reflection on their self-organized interprofessional meetings. This limitation means that we have excluded any impact that other joint student activities might have had on the students' learning and the realization of their common goal in the meetings, and vice versa.

Conclusion and implication

The students developed close collaboration on patient care through the regular discussions they arranged when allowed to shape the collaboration and the learning themselves in group meetings. We believe that the students realized the goal of interprofessional collaboration in patient care by having the opportunity to regularly spend time exploring and exploiting their different professional perspectives on patient care in the student groups in addition to their continuous dialogue with the patients and staff. In this way, they learned about, from and with each other and above all more about the patients. In their discussions in the groups, the students developed a broad knowledge base about the patients and they included more aspects of the patient's health situation in the treatment than an individual student would have achieved.

We interpret the students' development of close collaboration as a result of their prior knowledge and natural quest for meaning in relation to the goal of the placement, and the responsibility and trust given to them at the start of the practice period. In order for interprofessional collaboration to work, it is crucial that the participants are capable of relating and integrating each other's professional perspectives in the group. Interprofessional education must, therefore, provide learning arrangements that support students' initiative to develop a multiprofessional knowledge base in patient care. The learning arrangement we studied relied on the students' prior knowledge and supported their natural learning process when negotiating and implementing activities for joint patient care. Lave and Wenger's (1991) sociocultural learning theory and the concept of joint enterprise (Wenger, 1998) enabled us to focus on the actual activities the students initiated on patient care to reach the goal of interprofessional collaboration. Further, the concepts of boundary crossing and boundary objects enabled us to observe and describe what the discussions required of the students to be able to collaborate on patient care across professions and the consequences of the discussions, that is, that the students could continuously base their initiatives, assessments, and adjustments in patient care on a multiprofessional picture of the patient situation.

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Article 3

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Interprofessional student groups using patient documentation to facilitate interprofessional collaboration in clinical practice – A field study

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ABSTRACT

Background: This article explores and provides insights into how students learn interprofessional collaboration in a clinical placement. This topic is of interest for stakeholders in health services and education and for the research field of interprofessional education.
Objectives: How patient documentation facilitates collaboration in interprofessional student groups is explored.
Design: This study uses qualitative research with an ethnographic design.
Settings: This research studies interprofessional education at a Norwegian university.
Participants: Three student groups that participated in a two-week interprofessional clinical placement in a geriatric rehabilitation ward were studied, which comprised students of medicine, nursing, occupational therapy and physiotherapy.
Methods: Data were generated through observational studies and informal conversations with the students in interprofessional placement and consists of written field notes and transcribed audio-recorded conversations. The analysis drew on concepts from practice theory related to the social practices of learning.
Results: The students creatively and dynamically used a narrative note in the electronic patient record system in the ward to create an overview of care and ensure continuity of care for the patients for whom they were responsible. By using the narrative note in the record, the students aimed to develop a comprehensive understanding of their patients' clinical situations and care needs. When new information was entered in the note, information already written by individual students and student pairs was reviewed by all students, revised and mutually refined. As a result, multidimensional representations of the patients' health statuses and care needs emerged, including how the patients responded to the students' suggested interventions.
Conclusions: Patient documentation can be a tool for stimulating interprofessional collaboration when students are allowed to organize patient care independently. We suggest that students' natural meaning-seeking capability is a hidden resource that can be exploited in interprofessional education.

1. Background

This article explores how students learn interprofessional collaboration in a clinical placement. The review literature on interprofessional education (IPE) shows that students enjoy learning interprofessional collaboration in realistic contexts (Granheim et al., 2017). Students are especially positive when voluntarily participating (Reeves et al., 2016) and when allowed to practice their own profession (van Soeren et al., 2011). The literature also shows that students develop collaborative knowledge, skills and attitudes when training in such contexts (Fain and Kennell, 2017; Granheim et al., 2017; Kent and Keating, 2015; Reeves et al., 2016). However, this finding mainly rests on students' self-reported experience (Kent et al., 2017; Oosterom et al., 2019; Reeves et al., 2016). Therefore, it is not clear what students actually learn and how they learn (Kent et al., 2017; Oosterom et al., 2019; Reeves et al., 2016). To develop more in-depth knowledge about students' actual learning in interprofessional training in realistic contexts, more observational studies are needed (Kent and Keating, 2015; Reeves et al., 2017). This knowledge is of interest to stakeholders in health education and services and to the research field of

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interprofessional education.

The primary focus of this study is to explore how a narrative note in the electronic patient record system is used by three interprofessional student groups in clinical placement to facilitate their own collaboration. Traditionally, healthcare professionals document their observations, assessments and services in profession-specific documents and in sections of the patient record (Halford et al., 2010). Consequently, information is fragmented, which may compromise the quality of patient care, and the information recorded by some professionals is given a higher status than other professionals (Elias et al., 2015; Halford et al., 2010). With the transition to an interprofessional work organization, the varied information included in the patient record by various professionals is expected to be interconnected (Bardach et al., 2017). How the interconnection of information should be organized to support interprofessional collaboration is still under development (Bardach et al., 2017).

We have not found any studies in the literature of interprofessional education (IPE) about whether interprofessional student groups use the electronic patient record to document and if this supports their collaborative clinical work. Our research question addresses this knowledge gap; we ask what interprofessional student groups are doing when using a narrative note in the electronic patient record to support their collaborative work and what the consequences are for the representation of patients' health statuses and care needs.

Our study builds on an educational intervention in clinical placement that facilitated interprofessional collaboration for volunteer students in the last academic year of Bachelor's degree programmes in nursing, occupational therapy and physiotherapy and in the fifth year of medical school (Norbye, 2016). The pedagogy that underpins the intervention was inspired by the idea from practice-oriented theories that humans are knowledgeable beings that can find meaningful ways to reach goals in life as members of communities of practice, and they thereby develop and change social practices in society (Reckwitz, 2002; Wenger, 1998). The participating students were organized in groups and given the responsibility to provide health services to pre-selected patients.

The data in our study were generated through the observation of and informal conversations with three interprofessional student groups. The data analysis draws on concepts from practice theory in general and more specifically, from Wenger's (1998) sociocultural learning theory.

2. Theoretical approach

From the perspective of practice theory, society is understood as a set of social practices, and individuals are viewed as meaning-seeking beings who continuously learn through interaction in communities of practice (Nicolini et al., 2012; Wenger, 1998). Accordingly, practices emerge though human interaction that is based on shared cultures of cognitive and symbolic knowledge. This knowledge is expressed through routinized behaviour (Nicolini et al., 2012; Reckwitz, 2002). When a practice changes because the participants experience that the existing knowledge and objects no longer realize the goal of the practice, the changes in the participants' actions and interactions may be seen as an expression of learning (Nicolini et al., 2012; Wenger, 1998). This learning is possible for other humans to observe and describe (Wenger, 1998).

In some practices, practitioners' professional boundaries are crossed. By crossing boundaries, practitioners can develop new and more complex knowledge together (Akkerman and Bakker, 2011; Wenger, 1998). However, to collaborate across boundaries, professionals need a boundary object. A boundary object is a material or immaterial artefact that bridges gaps between professionals from different disciplines (Akkerman and Bakker, 2011; Wenger, 1998). Boundary objects might also appear as “epistemic things,” which refer to objects that none of the practitioners are familiar with prior to collaboration (Nicolini et al., 2012). The nature of the object is open, and it appeals to the practitioners' emotions and generates close bonds between them. The object requires practitioners to combine their resources to create affiliation between them (Nicolini et al., 2012). In the very process of pursuing a common goal to develop or change a practice, practitioners must cultivate or adopt various resources that enable them to negotiate opinions and direct their actions and interaction towards the goal (Wenger, 1998). Resources can be activities, relationships and materials, and the sum of the resources is the participants' *shared repertoire* (Wenger, 1998). The narrative note in the electronic patient record may be seen as a boundary object, as it facilitates the students' negotiations of opinions about patient health status and directs their actions and interactions towards what they perceive to be good patient care. Indeed, according to Lave (2019, p. 85), to participate in changing a practice is to participate in mutual learning.

3. Methods

3.1. Context

The students who were recruited for the interprofessional placement were organized into three interprofessional student groups. The composition of the groups was random. Each group participated in a two-week interprofessional clinical placement in a geriatric rehabilitation ward in municipal healthcare from 2014 to 2015. The ward was one of the university's ordinary collaboration partners that usually organized clinical placement for healthcare students from single health professions and had the capacity and willingness to participate in the development of new modes of teaching at the clinic. Each student group was given responsibility for exploring the implementation of a complex, long-term interprofessional collaboration for two patients. The students collaborated with the ward personnel during regular handovers and clinical meetings to ensure continuity and safety in patient care. A tutor was assigned by the head of the ward to supervise the student groups' interprofessional collaboration. Two of the student groups were supervised by the same tutor. This tutor was an occupational therapist who had attended a tutoring course. The third student group was supervised by a physiotherapist who also was the head of the ward at the time. The ward personnel allowed the students to develop their collaboration during the placement.

3.2. Participants

All three student groups consisted of one student from each of the following disciplines: medicine, nursing and occupational therapy. However, one of the groups missed a physiotherapy student due to concurrent skills training in the physiotherapy program. The nursing, physiotherapy and occupational therapy students were in their final year of their BA programmes, and the medical students were in their fifth year.

3.3. Data collection

The data collection followed an ethnographic approach. The first author, who is a nurse and sociologist, conducted observations and informal conversations with the student groups throughout the two-week periods. The author and the students did not have any previous relationships with one another before the study. The data were generated by observing students' interaction during and between group activities and meetings. Field notes were written during the observations. The student group meetings and the author's informal conversations with the student groups were audio-recorded.

3.4. Analytical strategy

The analysis was led by the three questions given by the practical

iterative framework of qualitative data analyses (Srivastava and Hopwood, 2009). Authors one and two coded the data material, and authors three and four participated as discussion partners in the coding process. In the analysis, we repeatedly alternated our attention among our research questions, the data and the theoretical framework. Following the first iterative question of 'what are the data telling us?' we asked '*what are the students' doing when meeting together to document?*' The data material was interpreted sentence by sentence and reconstructed by using initial codes. Thereafter, the initial codes were reconstructed into categories of actions across the student groups. Following the second iterative question, 'what do we want to know?' we then interpreted the categories by asking '*what is the students' approach to the documentation act?*' We reconstructed the categories into main themes of actions and identified typical examples of the themes across the interprofessional groups. We then asked the third iterative question, 'what is the dialectic relationship between what the data are telling us and what we want to know?' The students' main actions when meeting together to document seemed to be *completing multidimensional descriptions of the patients' functions in the narrative note*.

In considering the first iterative question once again, we investigated and interpreted the condensed multidimensional descriptions by asking '*what is the content of the multidimensional descriptions in the narrative note?*' We then reconstructed the descriptions into categories of content. In relation to the second iterative question, we asked, '*what are the students doing to integrate one another's observations and assessments into multidimensional descriptions?*' We then reconstructed the categories of the content into three main ways of integrating information. The three ways were a) acknowledging differences in professional perspectives on patient health, b) recognizing profession-specific expert knowledge on patient health and c) combining similar profession-specific knowledge on patient health. Regarding the third iterative question, the students' documentation seemed to *support interprofessional collaboration*.

4. Findings

Based on the field notes and audio recordings from the students' initial conversations in each group, we observed that the students from the very beginning of the placement argued that they had to create a written connection between the patient observations and assessments that each of them made to be able to collaborate interprofessionally. The students had noticed that there was a narrative note in the patient record in the ward, which they all had access to and in which they all could document profession-specific information, and they collectively decided to use this note. Furthermore, we observed that the students documented their work by recording observations and assessments both individually and in pairs and completing the final text together as a group during planned meetings. In these meetings, the student already working on the computer was chosen to write in the note on behalf of all students. Often, this was the medical student. However, the students alternated who was writing when profession-specific expert knowledge had to be documented.

In the group meetings, the students completed the final text in the note by discussing the information that was read aloud from the students' individual documentations and that was shared verbally concerning the patients' functions. The students both acknowledged the different professional perspectives and recognized profession-specific expert knowledge. The combination of recognized profession-specific knowledge and acknowledgements concerning the patients' health functioning developed into recognitions and combinations of professional knowledge in the text in the narrative note. Accordingly, the final text reflected a multidimensional description of the patients' health status that supported collaborative work. We here present examples of how the description evolved through the students' discussions.

4.1. Acknowledgement of differences in the professional perspectives on patient health

When the students discussed one another's observations and assessments of the patients' functions, they discovered that the depth knowledge in some areas was different among the professions. They then began to explore one another's assessments by asking open-ended questions that encouraged elaboration of one another's assessment basis. In light of their perspectives, the students realized that some uncertainty was associated with their own professional statements about the patients' health. In the final text, the differences in profession-specific information were acknowledged and ended with a statement that indicated that something had to be examined more closely. The following example is from a discussion in student group 1 about a patient's problems with hearing:

> "I've already written that the patient had good hearing when tested," says the medical student and explains to the others the examination that was performed. "I find that she occasionally has difficulty hearing, so I have to raise my voice," says the occupational therapy student. "Does the patient actually not hear, or does she not understand what's being said?" wonders the physiotherapy student. "It went fine when I asked her if she could hear during the test, but she seemed tired or unable to concentrate at other times when I talked to her," explains the medical student. "But I haven't found that she can't follow conversations she's interested in. Not even when the television is quite loud," says the nursing student. "So, I'll write that the patient appears to have some reduced hearing during activities," says the medical student. "Yes, and we need to investigate this further," adds the occupational therapy student. The other students nod or say yes.
>
> (Field notes and audio recording, 2014).

When the medical student summarizes the documented text, he relates the fellow students' descriptions of the patient's hearing to his own previously recorded conclusion that the patient's hearing was good. The new statement indicates some doubt about the patient's hearing. The recorded doubt about the patient's hearing is the group's overall assessment, which resulted in agreement among the students that the patient's hearing needed to be further assessed.

4.2. Recognizing profession-specific expert knowledge on patient health

The students also discussed areas of the patients' functioning in which only some of the students had the in-depth knowledge to evaluate. In this context, the students allowed individual students' profession-specific expert knowledge to be the main source of the new knowledge and the recorded text. The following example is from a discussion in student group 2 about a patient's paralysis:

> "The patient uses the entire body," says the occupational therapy student. "Not the left side," says the nursing student. "No, but he's begun to use the left side," replies the occupational therapy student. "Yes, but his right arm and foot are at least functioning normally," notes the nursing student. The medical student enters what the nursing student says. "We need to encourage this patient to use his left arm to manage using the brake on the wheelchair. He can manage that," says the occupational therapy student. "Can he?" asks the nursing student. "Yes, the brake isn't rigid, and he can flex his fingers well," replies the occupational therapy student. "I'm writing about the left arm here now. What are the patient's problems there? Extending his wrist and fingers?" asks the medical student and writes "left arm" on the form and waits before writing anything about the arm. "Extension of the fingers and wrists and generally extension in the entire arm. And the patient has shoulder abduction when doing different activities and flexes his elbow inwards," answers the occupational therapy student and demonstrates the

patient's arm movements to the other students.

(Field notes and audio recording, 2015).

Here, the occupational therapy student shared her observations by emphasizing the patient's left arm function. When the students explored their knowledge and assessments in depth, they recognized that some knowledge and assessments could be given more weight than others in the description in the narrative note. The occupational therapy student's profession-specific understanding of the patient's situation and proper intervention became a shared understanding in the student group and was entered into the note.

4.3. Combining similar profession-specific knowledge on patient health

The students also discovered that they had made similar observations and assessments of the patient's health. When there was agreement on the knowledge and assessments, the students elaborated on one another's descriptions. The various elements presented provided more detailed knowledge of the patient and were included in the common description. The following is a discussion in student group 1 about a patient's speech functioning:

> The medical student reads, “Under ‘Speech and Cognitive and Physical Functioning,’ nothing's been written yet.” “The patient has difficulty finding words,” says the physiotherapy student. “Yes, and that's also reflected in her writing. She can't express words to form a sentence. But things like that go hand in hand,” says the occupational therapy student. The medical student starts writing on the form. “Yes, there may well be a connection there,” the physiotherapy student answers thoughtfully. Yes,” confirms the occupational therapy student. The medical student stops when he has finished writing and says, “I'm just writing down what you say.” “What else?” asks the occupational therapy student, looking at the others. “But the patient can easily make herself understood when she communicates,” says the physiotherapy student. The medical student immediately starts writing again. “Yes! She really can! She starts the conversations by herself,” says the nursing student in an emphatic tone. There is a pause while the medical student finishes writing.
>
> (Field notes and audio recording, 2014).

As a group, the students did not differentiate between the profession-specific knowledge and assessments of each student contributing to the documentation. The text became a coherent description of how the group as a whole assessed the patient's language functioning.

We observed how the students developed multidimensional descriptions that were complementary to the individual assessments by referring to their background information, agreed-upon descriptions in meetings, reports and conversations with the ward staff. The complex descriptions were used not only in documentation but also in their collaborative processes and continued work with the patients.

5. Discussion

In the analysis, we show that the student groups used a narrative note in the patient record to document their clinical work as a group. In doing so, the students aimed to develop a multidimensional representation of their patients' clinical situations and care needs. Based on our findings, we assert that interprofessional student groups are themselves capable of developing suitable ways to collaborate. Teachers and tutors in the clinic should recognize students as meaning-seeking beings and exploit their openness and creativity in the learning process.

The IPE student placement studied was based on a sociocultural perspective of learning that recognizes humans as knowledgeable learners in communities of practice. In this paper, we explored what interprofessional student groups do when using a narrative note in the existing patient record to support their collaborative work and the consequences for the representation of patients' health statuses and care needs. We described how the students developed multidimensional descriptions of patients' health statuses by using the note. The different students' professional backgrounds became a valuable resource for the interprofessional student groups that enabled them to negotiate opinions about the patients' health and further activity in patient care. The findings confirm previous evidence that students increase their knowledge and skills in IPE (Granheim et al., 2017; Kent and Keating, 2015; Reeves et al., 2016, 2017).

As the students shared their knowledge and assessments and documented them in the narrative note, they discovered that they could provide patient care in new ways. From the perspective of practice theory, people change their mental and physical activities when they find the already used combination of activities to be ineffective for achieving their goals (Nicolini et al., 2012; Reckwitz, 2002; Wenger, 1998). We interpret the students' positive attitudes towards collaboration as their willingness to explore the concept of interprofessional collaboration, as they experienced not only that they had complementary knowledge but also that they learned from one another, about one another and with one another through collaboration, which is the desired reaction to political visions expressed in society and education. Therefore, it seems important that the students could perform activities relevant to their own professions in IPE to make use of their own openness to developing new understandings of their own professions. Previous findings have also shown that students especially enjoy practising their own profession in IPE (van Soeren et al., 2011).

The immediate sharing of profession-specific knowledge and assessments among the students in our study can be understood as a reaction to the students' responsibility for patient care and interprofessional collaboration. All students were willing to explore the patients' health statuses and decide the appropriate healthcare as an interprofessional group. Furthermore, the students expressed that they were dependent on the other students to create a more complete picture of the patient's situation. Therefore, the narrative notes became the students' boundary object, i.e., an object that enabled them to cross boundaries to create more complex knowledge (Akkerman and Bakker, 2011; Wenger, 1998). The boundary object may also function as an epistemic object, i.e., an object that draws people towards it because people want to describe it and that therefore creates bonds between the people involved (Nicolini et al., 2012).

The students transitioned from their traditional documentation activities to interprofessional documentation to determine the patients' health statuses and care needs. Wenger (1998) suggested that people pursuing a common goal over time may develop or adopt resources that help them reach the goal. These resources can be activities, relationships and objects. We interpret the students' development of a common documentation as a new resource that the student groups creatively developed. The common documentation gave the students a new space that allowed them to document their new interrelated, interprofessional knowledge. The traditional documentation practice that involved the use of different documents became insufficient for the interprofessional knowledge they needed to record. Traditionally, professionals document observations and assessments in various documents and sections of the patient record (Halford et al., 2010) without connecting the information. The note chosen by the students in the patients' record became the boundary object in which they could share and discuss the complexity of the patient's health status in a nuanced way. It also structured the students' discussion and negotiations to enable interprofessional collaboration.

Traditional, profession-specific documentation may compromise the quality of patient care, as the information that is documented by different professionals can be incoherent and inconsistent, and more weight can be given to information provided by certain professionals (Elias et al., 2015; Halford et al., 2010). The students in this study argued that the common documentation was a natural consequence of

working interprofessionally. Thus, the narrative note avoided compromising the quality of patient care by directly and systematically connecting the students' knowledge and assessments and by documenting their common conclusions. By sharing knowledge and assessments, acknowledging differences in perspectives, recognizing profession-specific expert knowledge and combining similar perspectives, the students succeeded in developing collaborative multidimensional patient descriptions in patient care.

5.1. Limitations

We recognize that some aspects may have led to students' positive engagement in interprofessional learning and collaboration. The student recruitment and voluntary nature of participation could have contributed to the students' willingness to learn from the educational intervention, as also described in previous research in the field (Reeves et al., 2016). Being part of a research project and being observed could also have limited disagreement among the students. However, when the students were asked about the impact of the presence of the researcher, they stated that they forgot the researcher as soon as the discussions about the patients started. Furthermore, some students stated that the researchers' questions increased their reflections on their own and the groups' actions by simply being asked to elaborate on the reason for their actions. The relation between the researcher and the research subject is a social relation that also implies mutual meaning-making. Therefore, the researcher continued to ask open-ended questions about the students' reasons for their actions to generate data about the students meaning-making and learning. Finally, the students' common documentation received positive feedback from the ward staff. The ward staff's spontaneous positive reactions were not restricted. Nevertheless, the common documentation was initiated and developed by the students themselves and was a response to their responsibility as a group.

6. Conclusions

In this paper, we contributed new insights into how collaborative documentation evolves in interprofessional student groups. Employing ideas and concepts from practice theory, we examined students' positive attitudes towards changes in professional work and their development of a common documentation as a way to collaborate and form pictures of patients' health conditions and treatment. By drawing on the concept of epistemic objects, we observed how the students creatively developed common documentation practices, which enabled complex and nuanced knowledge to be shared with ward personnel. In addition, Wenger's (1998) concept of shared repertoire allowed us to recognize that the students developed resources for patients' records by transforming traditional documentation activities into their own shared activities. We also noted that the interprofessional student groups were able to establish new ways of collaborating to enable interprofessional collaboration for better healthcare. Healthcare students can be a resource to healthcare when they are allowed to explore new practices. Students' natural openness and creativity can be exploited in their learning processes, as their natural meaning-seeking nature is not necessarily constrained by traditional practices in healthcare. The study also shows that documentation processes can become an important and valuable learning arena for interprofessional students in their collaboration.

Data availability

The data that consisted of field notes, transcribed informal conversations and student group meetings are available in the Norwegian language.

Informed consent

Informed consent was obtained from all individual participants included in the study.

CRediT authorship contribution statement

Anita C Gudmundsen: Conceptualization, Investigation, Formal analysis, Writing - Original Draft, **Bente Norbye**: Conceptualization, Funding acquisition, Writing - Review & Editing, **Madeleine Abrandt Dahlgren:** Conceptualization, Writing - Review & Editing, **Aud Obstfelder**: Conceptualization, Writing - Review & Editing.

Role of the funding source

This study was funded by UiT, The Arctic University of Norway. The funding source had no influence in the study design, in the data collection, analysis of the data, in the writing of the report, and in the decision to submit the article for publication.

Ethical approval

The Norwegian Social Science Data (NSD) approved this research project in July 2013 (approval number 34895). Furthermore, the Regional Ethics Committee of Medical Research Ethics approved the project in September 2014 (approval number 2014/1659).

Declaration of competing interest

The authors declare that there is no conflict of interest.

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Appendix 1-12

1. Report to Norsk samfunnsvitenskapelig datatjeneste AS 28.06.13
2. Reply from Norsk samfunnsvitenskapelig datatjeneste AS 18.07.13
3. Submitted revised information letter to Norsk samfunnsvitenskapelig datatjeneste AS 06.09.13
4. Reply from Norsk samfunnsvitenskapelig datatjeneste AS 10.09.13
5. Presentation of the PhD candidate to the nurse stations involved
6. Application to Regional etisk komite 19.09.14
7. Reply from Regional etisk komite 06.11.14
8. Presentation of the research for display in patient areas in the ward
9. Reply form Regional etisk komite 17.11.14
10. Overview Categories of doings and topics of negotiations, initial analyses of data
11. Overview Questions that guided the data analysis in the three sub-studies of the dissertation
12. Overview Categories and main themes of mutual engagement, example of an analyses from Sub-study

Norsk samfunnsvitenskapelig datatjeneste AS
NORWEGIAN SOCIAL SCIENCE DATA SERVICES

MELDESKJEMA

Meldeskjema (versjon 1.4) for forsknings- og studentprosjekt som medfører meldeplikt eller konsesjonsplikt (jf. personopplysningsloven og helseregisterloven med forskrifter).

1. Prosjekttittel

Tittel	Tverrprofesjonell samarbeidslæring i helsefaglige profesjonsutdanninger	

2. Behandlingsansvarlig institusjon

Institusjon	Universitetet i Tromsø	Velg den institusjonen du er tilknyttet. Alle nivå må oppgis. Ved studentprosjekt er det studentens tilknytning som er avgjørende. Dersom institusjonen ikke finnes på listen, vennligst ta kontakt med personvernombudet.
Avdeling/Fakultet	Det helsevitenskapelige fakultet	
Institutt	Institutt for helse- og omsorgsfag	

3. Daglig ansvarlig (forsker, veileder, stipendiat)

Fornavn	Bente	Før opp navnet på den som har det daglige ansvaret for prosjektet.Veileder er vanligvis daglig ansvarlig ved studentprosjekt. Veileder og student må være tilknyttet samme institusjon. Dersom studenten har ekstern veileder, kan biveileder eller fagansvarlig ved studiestedet stå som daglig ansvarlig.Arbeidssted må være tilknyttet behandlingsansvarlig institusjon, f.eks. underavdeling, institutt etc. NB! Det er viktig at du oppgir en e-postadresse som brukes aktivt. Vennligst gi oss beskjed dersom den endres.
Etternavn	Norbye	
Akademisk grad	Høyere grad	
Stilling	Førstelektor	
Arbeidssted	Det helsevitenkapelige fakultet	
Adresse (arb.sted)	Universitetet i Tromsø	
Postnr/sted (arb.sted)	9037 Tromsø	
Telefon/mobil (arb.sted)	77171012 / 95122383	
E-post	bente.norbye@uit.no	

4. Student (master, bachelor)

Studentprosjekt	Ja ○ Nei ●	

5. Formålet med prosjektet

Formål	Hensikten med prosjektet er å frembringe kunnskap om hvordan tverrfaglig samarbeidslæring kan gjøres i klinisk praksis. Samhandlingsreformen og stortingsmeldingen Utdanning for Velferd setter søkelys på behovet for tverrfaglig samarbeid i helsetjenestene. Aksjonsforskingsprosjektet vil bidra med kunnskap om hvordan profesjonsutdanningene og praksisfeltet kan samarbeide om å tilrettelegge for tverrfaglig samarbeidslæring hos studentene. Studenter fra fire forskjellige profesjonsutdanninger (sykepleie, medisin, fysioterapi og ergoterapi) skal få muligheter til å samhandle om reelle kliniske problemstillinger og pasientforløp.	Redegjør kort for prosjektets formål, problemstilling, forskningsspørsmål e.l. Maks 750 tegn.

6. Prosjektomfang

Velg omfang	○ Enkel institusjon ● Nasjonalt samarbeidsprosjekt ○ Internasjonalt samarbeidsprosjekt	Med samarbeidsprosjekt menes prosjekt som gjennomføres av flere institusjoner samtidig, som har samme formål og hvor personopplysninger utveksles.
Oppgi øvrige institusjoner	Lenvik og Bardu kommune	
Oppgi hvordan samarbeidet foregår	Lærere fra fire profesjonsutdanninger ved Uit, praksisveiledere og utvalgt helsepersonell fra Bardu og Lenvik skal samarbeide om å utvikle nye praksisarenaer og tilrettelegge for tverrfaglige læresituasjoner. Dette skal gjennomføres gjennom en planleggingsfase høsten 2013, utprøving januar og februar 2014, evaluering og justering høsten 2014, ny praksisperiode for nye studenter og evaluering av studenter, lærere og helsepersonell fortøpende og ved avsluting av hver fase.	

7. Utvalgsbeskrivelse

Utvalget	Lærere fra de fire profesjonsutdanningene, praksisveiledere fra de to helseinstitusjonene og studentene som skal lære tverrprofesjonell samarbeidslæring	Med utvalg menes dem som deltar i undersøkelsen eller dem det innhentes opplysninger om. F.eks. et representativt utvalg av befolkningen, skoleelever med lese- og skrivevansker, pasienter, innsatte.
Rekruttering og trekking	Det helsevitenskaplige fakultet har fra tidligere samarbeidsavtaler med helseinstitusjonene som inngår i prosjektet om samarbeid om studentundervisning og praksisplasser. Alle deltakerne i prosjektet rekrutteres gjennom fakultetsledelsen ved det helsevitenskapelige fakultet. Lærere som er ansvarlig for det siste studentkullet på hver profesjonsutdanning rekrutteres inn i prosjektet. Det samme gjelder for praksisveiledere fra de to deltakende helseinstitusjonene. Studentene rekrutteres gjennom selvseleksjon. Studentkullene blir informert om prosjektet i god tid før de skal prøve ut de nye praksisplassene	Beskriv hvordan utvalget trekkes eller rekrutteres og oppgi hvem som foretar den. Et utvalg kan trekkes fra registre som f.eks. Folkeregisteret, SSB-registre, pasientregistre, eller det kan rekrutteres gjennom f.eks. en bedrift, skole, idrettsmiljø, eget nettverk.
Førstegangskontakt	Bente Norbye, prosjektleder, informerer profesjonsutdanningene og helseinstitsjonene om prosjektet på vegne av Det helsevitenskapelige fakultet, både skriftlig og muntlig. Alle parter er allerede informert om at prosjektet vil starte opp i løpet av høsten 2013.	Beskriv hvordan førstegangskontakten opprettes og oppgi hvem som foretar den. Les mer om dette på temasidene Hva skal du forske på?
Alder på utvalget	□ Barn (0-15 år) □ Ungdom (16-17 år) ■ Voksne (over 18 år)	
Antall personer som inngår i utvalget	Fire lærere, fire praksisveiledere og trettiseks studenter. Tilsammen inngår førtifire personer i prosjektet.	
Inkluderes det myndige personer med redusert eller manglende samtykkekompetanse?	Ja ○ Nei ●	Begrunn hvorfor det er nødvendig å inkludere myndige personer med redusert eller manglende samtykkekompetanse. Les mer om Pasienter, brukere og personer med redusert eller manglende samtykkekompetanse
Hvis ja, begrunn		

8. Metode for innsamling av personopplysninger

Kryss av for hvilke datainnsamlingsmetoder og datakilder som vil benyttes	□ Spørreskjema ■ Personlig intervju ■ Gruppeintervju ■ Observasjon □ Psykologiske/pedagogiske tester □ Medisinske undersøkelser/tester □ Journaldata □ Registerdata □ Annen innsamlingsmetode	Personopplysninger kan innhentes direkte fra den registrerte f.eks. gjennom spørreskjema, intervju, tester, og/eller ulike journaler (f.eks. elevmapper, NAV, PPT, sykehus) og/eller registre (f.eks. Statistisk sentralbyrå, sentrale helseregistre).
Annen innsamlingsmetode, oppgi hvilken		
Kommentar		

9. Datamaterialets innhold

Redegjør for hvilke opplysninger som samles inn	Samarbeidsprosessene mellom studentene, hvordan problemløsningen skjer og hvilket handlingsresultat kommer ut av samarbeidet. Studentenes, lærernes og praksisveiledernes refleksjoner rundt prosess og resultater. Identifikasjon av egnede læresituasjoner for samarbeidslæring.	Spørreskjema, intervju-/temaguide, observasjonsbeskrivelse m.m. sendes inn sammen med meldeskjemaet. NB! Vedleggene lastes opp til sist i meldeskjema, se punkt 16 Vedlegg.
Samles det inn direkte personidentifiserende opplysninger?	Ja ○ Nei ●	Dersom det krysses av for ja her, se nærmere under punkt 11 Informasjonssikkerhet.

Hvis ja, hvilke?	□ 11-sifret fødselsnummer □ Navn, fødselsdato, adresse, e-postadresse og/eller telefonnummer	Les mer om hva personopplysninger er NB! Selv om opplysningene er anonymiserte i oppgave/rapport, må det krysses av dersom direkte og/eller indirekte personidentifiserende opplysninger
Spesifiser hvilke		
Samles det inn indirekte personidentifiserende opplysninger?	Ja ● Nei ○	En person vil være indirekte identifiserbar dersom det er mulig å identifisere vedkommende gjennom bakgrunnsopplysninger som for eksempel bostedskommune eller arbeidsplass/skole kombinert med opplysninger som alder, kjønn, yrke, diagnose, etc. Kryss også av dersom ip-adresse registreres.
Hvis ja, hvilke?	Studentene; Gjennom tilhørighet til Universitetet i Tromsø, alder, kjønn. Veiledere fra helsetjenestene, Vitenskapelig personell: gjennom ansettelse og tilhørighet i praosjektet	
Samles det inn sensitive personopplysninger?	Ja ○ Nei ●	
Hvis ja, hvilke?	□ Rasemessig eller etnisk bakgrunn, eller politisk, filosofisk eller religiøs oppfatning □ At en person har vært mistenkt, siktet, tiltalt eller dømt for en straffbar handling □ Helseforhold □ Seksuelle forhold □ Medlemskap i fagforeninger	
Samles det inn opplysninger om tredjeperson?	Ja ○ Nei ●	Med opplysninger om tredjeperson menes opplysninger som kan spores tilbake til personer som ikke inngår i utvalget. Eksempler på tredjeperson er kollega, elev, klient, familiemedlem.
Hvis ja, hvem er tredjeperson og hvilke opplysninger registreres?		
Hvordan informeres tredjeperson om behandlingen?	□ Skriftlig □ Muntlig □ Informeres ikke	
Informeres ikke, begrunn		

10. Informasjon og samtykke

Oppgi hvordan utvalget informeres	■ Skriftlig ■ Muntlig □ Informeres ikke	Vennligst send inn informasjonsskrivet eller mal for muntlig informasjon sammen med meldeskjema. NB! Vedlegg lastes opp til sist i meldeskjemaet, se punkt 16 Vedlegg. Dersom utvalget ikke skal informeres om behandlingen av personopplysninger må det begrunnes. Last ned vår veiledende mal til informasjonsskriv
Begrunn		
Oppgi hvordan samtykke fra utvalget innhentes	■ Skriftlig ■ Muntlig □ Innhentes ikke	Dersom det innhentes skriftlig samtykke anbefales det at samtykkeerklæringen utformes som en svarslipp eller på eget ark. Dersom det ikke skal innhentes samtykke, må det begrunnes.
Innhentes ikke, begrunn		

11. Informasjonssikkerhet

Direkte personidentifiserende opplysninger erstattes med et referansenummer som viser til en atskilt navneliste (koblingsnøkkel)	Ja ○ Nei ●	Har du krysset av for ja under punkt 9 Datamaterialets innhold må det merkes av for hvordan direkte personidentifiserende opplysninger registreres. NB! Som hovedregel bør ikke direkte personidentifiserende opplysninger registreres sammen med det øvrige datamaterialet.
Hvordan oppbevares navnelisten/ koblingsnøkkelen og hvem har tilgang til den?		

Direkte personidentifiserende opplysninger oppbevares sammen med det øvrige materialet	Ja ○ Nei ●	
Hvorfor oppbevares direkte personidentifiserende opplysninger sammen med det øvrige datamaterialet?		
Oppbevares direkte personidentifiserbare opplysninger på andre måter?	Ja ○ Nei ●	
Spesifiser		
Hvordan registreres og oppbevares datamaterialet?	□ Fysisk isolert datamaskin tilhørende virksomheten □ Datamaskin i nettverkssystem tilhørende virksomheten ■ Datamaskin i nettverkssystem tilknyttet Internett tilhørende virksomheten □ Fysisk isolert privat datamaskin □ Privat datamaskin tilknyttet Internett □ Videoopptak/fotografi ■ Lydopptak ■ Notater/papir □ Annen registreringsmetode	Merk av for hvilke hjelpemidler som benyttes for registrering og analyse av opplysninger. Sett flere kryss dersom opplysningene registreres på flere måter.
Annen registreringsmetode beskriv		
Behandles lyd-/videoopptak og/eller fotografi ved hjelp av datamaskinbasert utstyr?	Ja ● Nei ○	Kryss av for ja dersom opptak eller foto behandles som lyd-/bildefil. Les mer om behandling av lyd og bilde.
Hvordan er datamaterialet beskyttet mot at uvedkommende får innsyn?	Datamaskin beskyttet med brukernavn og passord i låsbart rom. Lagring på fellesområde på institusjon (bak brannmur). Minnebrikker med lyd og bildeinformasjon innlåst i skap i låsbart rom. Skriftlig informasjon om utvalget er skilt fra digitale filer. Utskrifter av intervju og feltnotater oppbevares innlåst i skap og i låst rom.	Er f.eks. datamaskintilgangen beskyttet med brukernavn og passord, står datamaskinen i et låsbart rom, og hvordan sikres bærbare enheter, utskrifter og opptak?
Dersom det benyttes mobile lagringsenheter (bærbar datamaskin, minnepenn, minnekort, cd, ekstern harddisk, mobiltelefon), oppgi hvilke		NB! Mobile lagringsenheter bør ha mulighet for kryptering.
Vil medarbeidere ha tilgang til datamaterialet på lik linje med daglig ansvarlig/student?	Ja ● Nei ○	
Hvis ja, hvem?	Prosjekt medarbeidere og PhD - student.	
Overføres personopplysninger ved hjelp av e-post/Internett?	Ja ○ Nei ●	F.eks. ved bruk av elektronisk spørreskjema, overføring av data til samarbeidspartner/databehandler mm.
Hvis ja, hvilke?		
Vil personopplysninger bli utlevert til andre enn prosjektgruppen?	Ja ○ Nei ●	
Hvis ja, til hvem?		
Samles opplysningene inn/behandles av en databehandler?	Ja ● Nei ○	Dersom det benyttes eksterne til helt eller delvis å behandle personopplysninger, f.eks. Questback, Synovate MMI, Norfakta eller transkriberingsassistent eller tolk, er dette å betrakte som en databehandler. Slike oppdrag må kontraktsreguleres Les mer om databehandleravtaler her
Hvis ja, hvilken?	Transkribent.	

12. Vurdering/godkjenning fra andre instanser

Søkes det om dispensasjon fra taushetsplikten for å få tilgang til data?	Ja ○ Nei ●	For å få tilgang til taushetsbelagte opplysninger fra f.eks. NAV, PPT, sykehus, må det søkes om dispensasjon fra taushetsplikten. Dispensasjon søkes vanligvis fra aktuelt departement. Dispensasjon fra taushetsplikten for helseopplysninger skal for alle typer forskning søkes Regional komité for medisinsk og helsefaglig forskningsetikk
Kommentar		
Søkes det godkjenning fra andre instanser?	Ja ○ Nei ●	F.eks. søke registereier om tilgang til data, en ledelse om tilgang til forskning i virksomhet, skole, etc.
Hvis ja, hvilke?		
13. Prosjektperiode		
Prosjektperiode	Prosjektstart:01.08.2013 Prosjektslutt:31.12.2016	Prosjektstart Vennligst oppgi tidspunktet for når førstegangskontakten med utvalget opprettes og/eller datainnsamlingen starter. Prosjektslutt Vennligst oppgi tidspunktet for når datamaterialet enten skal anonymiseres/slettes, eller arkiveres i påvente av oppfølgingsstudier eller annet. Prosjektet anses vanligvis som avsluttet når de oppgitte analyser er ferdigstilt og resultatene publisert, eller oppgave/avhandling er innlevert og sensurert.
Hva skal skje med datamaterialet ved prosjektslutt?	■ Datamaterialet anonymiseres □ Datamaterialet oppbevares med personidentifikasjon	Med anonymisering menes at datamaterialet bearbeides slik at det ikke lenger er mulig å føre opplysningene tilbake til enkeltpersoner.NB! Merk at dette omfatter både oppgave/publikasjon og rådata. Les mer om anonymisering
Hvordan skal datamaterialet anonymiseres?	Datamaterialet skal avidentifiseres, navn på personer, kommune	Hovedregelen for videre oppbevaring av data med personidentifikasjon er samtykke fra den registrerte. Årsaker til oppbevaring kan være planlagte oppfølgningsstudier, undervisningsformål eller annet. Datamaterialet kan oppbevares ved egen institusjon, offentlig arkiv eller annet. Les om arkivering hos NSD
Hvorfor skal datamaterialet oppbevares med personidentifikasjon?		
Hvor skal datamaterialet oppbevares, og hvor lenge?		
14. Finansiering		
Hvordan finansieres prosjektet?	Internfinansiering, UiT, Det helsevitenskapelige fakultet.	
15. Tilleggsopplysninger		
Tilleggsopplysninger		
16. Vedlegg		
Antall vedlegg	3	

Norsk samfunnsvitenskapelig datatjeneste AS
NORWEGIAN SOCIAL SCIENCE DATA SERVICES

NSD

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N-5007 Bergen
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nsd@nsd.uib.no
www.nsd.uib.no
Org.nr: 985 321 884

Bente Norbye
Institutt for helse- og omsorgsfag
Universitetet i Tromsø
MH-bygget
9037 TROMSØ

Vår dato: 18.07.2013 Vår ref: 34895 / 3 / MSI Deres dato: Deres ref:

TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 28.06.2013. All nodvendig informasjon om prosjektet forelå i sin helhet 16.07.2013. Meldingen gjelder prosjektet:

34895	*Tverrprofesjonell samarbeidslæring i helsefaglige profesjonsutdanninger*
Behandlingsansvarlig	*Universitetet i Tromsø, ved institusjonens øverste leder*
Daglig ansvarlig	*Bente Norbye*

Personvernombudet har vurdert prosjektet og finner at behandlingen av personopplysninger er meldepliktig i henhold til personopplysningsloven § 31. Behandlingen tilfredsstiller kravene i personopplysningsloven.

Personvernombudets vurdering forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i meldeskjemaet, korrespondanse med ombudet, ombudets kommentarer samt personopplysningsloven og helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema http://www.nsd.uib.no/personvern/meldeplikt/skjema.html. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, http://pvo.nsd.no/prosjekt.

Personvernombudet vil ved prosjektets avslutning, 31.12.2020, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen

Vigdis Namtvedt Kvalheim

Marte Byrkjeland

Marte Byrkjeland tlf: 55 58 33 48
Vedlegg: Prosjektvurdering

Personvernombudet for forskning

Prosjektvurdering - Kommentar

Prosjektnr: 34895

Hensikten med prosjektet er å frembringe kunnskap om hvordan tverrfaglig samarbeidslæring kan gjøres i klinisk praksis. Prosjektet er et aksjonsforskningsprosjekt. Personvernombudet forutsetter at utkast til intervjuguider, observasjonsguider o.l. i prosjektets ulike faser ettersendes for vurdering i god tid før de skal benyttes (personvernombudet@nsd.uib.no).

Prosjektet gjennomføres i samarbeid med Lenvik og Bardu kommune. Universitetet i Tromsø er behandlingsansvarlig institusjon. Personvernombudet forutsetter at behandlings-/ansvarsfordelingen formelt er avklart mellom institusjonene. Vi anbefaler at det utarbeides en avtale som omfatter ansvarsfordeling, ansvarsstruktur, hvem som initierer prosjektet, bruk av data og eventuelt eierskap.

Ifølge prosjektmeldingen skal det innhentes muntlig og skriftlig samtykke basert på muntlig og skriftlig informasjon om prosjektet og behandling av personopplysninger. Vi viser til telefonsamtale med Bente Norbye, 16.07.2013. Personvernombudet finner informasjonsskrivet tilfredsstillende utformet i henhold til personopplysningslovens vilkår, forutsatt at følgende endringer foretas:

- det må gå klarere frem hva deltakelse innebærer. Det må tilføyes at det kan bli aktuelt å gjøre videoopptak av seminarene og workshop, og det bør gis opplysninger om hvor mye tid deltakelse innebærer (hyppighet og omfang).
- en setning om taushetsplikten bør tilføyes, f.eks. slik: "vi minner om at du som helsearbeider er underlagt taushetsplikt når det gjelder pasientopplysninger, og at i den grad du kommer inn på opplysninger om enkeltpasienter må disse avgis i anonymisert form."
- avsnittet "Hva skjer med informasjonen om deg" må presiseres. Det må spesifiseres hva datamaterialet skal brukes til og det må fremgå at ingen enkeltpersoner vil være gjenkjennbare i publikasjoner. Dersom prosjektslutt oppgis til 2016 må det vises til at dette er når datainnsamlingen er planlagt avsluttet og at anonymisering av datamaterialet skjer innen utgangen av 2020 av hensyn til bearbeiding av data og publisering.

Personvernombudet ber om å få tilsendt revidert informasjonsskriv før det distribueres til utvalget. Skrivet sendes til: personvernombudet@nsd.uib.no.

Personvernombudet minner om at forespørsel må rettes på en slik måte at frivilligheten ved deltagelse ivaretas, jf. telefonsamtale 16.07.2013.

Det opplyses på telefon at datainnsamlingen ikke vil foregå i pasienters tilstedeværelse. Personvernombudet forutsetter at det ikke innhentes personopplysninger om pasienter, og at taushetsplikten ikke er til hinder for den behandling av opplysninger som finner sted.

Det legges til grunn at videofilming gjennomføres på en slik måte at det kun registreres opplysninger (inkl. stemmer og ansikter) om personer som har samtykke til å delta.

Det er oppgitt at en transkribent vil kunne benyttes som databehandler. Dersom transkribenten er ekstern (ikke tilknyttet Universitetet i Tromsø) forutsetter personvernombudet at det foreligger en databehandleravtale mellom transkribenten og Universitetet i Tromsø for den behandling av data som finner sted, jf. personopplysningsloven § 15. For råd om hva databehandleravtalen bør

inneholde, se Datatilsynets veileder på denne siden: http://datatilsynet.no/verktoy-skjema/Skjema-maler/Databehandleravtale---mal/

Personvernombudet legger til grunn at behandlingen av personopplysninger er i samsvar med informasjonssikkerhetsmessige retningslinjer ved Universitetet i Tromsø.

Datamaterialet anonymiseres senest innen 31.12.2020. For at datamaterialet skal være anonymt, må lyd- og videoopptak og direkte personopplysninger (navn, e-postadresse og telefonnummer el.) slettes og indirekte personidentifiserende opplysninger (bakgrunnsopplysninger som yrke, stiling, utdanning, kommune, alder og kjønn) slettes eller grovkategoriseres, slik at ingen enkeltpersoner kan gjenkjennes i materialet av noen.

Forespørsel om deltakelse i aksjonsforskningsprosjekt

"Tverrprofesjonell samarbeidslæring i helsefaglige profesjonsutdanninger"

Bakgrunn og formål
Tverrprofesjonell samarbeidslæring er en læringsform der studenter fra ulike profesjonsutdanninger lærer sammen og får innsikt i andres kompetanse og dermed også bedre forståelse av sin egen. Rolleforståelse og evne til samhandling er sentrale mål, der studenten skal lære av, om og med hverandre. Kunnskap om egen kompetanse ligger i bunnen for å utvikle forståelse for hva andre profesjoner kan bidra med i en samhandlingssituasjon knyttet til et pasientforløp.

Målet er å legge til rette for at tverrprofesjonell samarbeidslæring kan skje i klinisk praksis. For å få dette til initieres et aksjonsforskningsprosjekt i et samarbeid mellom Det helsevitenskapelige fakultet, UiT og involverte kommuner. Studentene ved fire av profesjonsutdanningene ved fakultetet; medisiner-, ergoterapi-, fysioterapi- og sykepleierutdanningen skal gjennomføre en felles klinisk praksisperiode og samarbeide om pleie- og behandling av brukere av helsetjenesten. Veiledningen av studentene skal også være tverrprofesjonell.

Prosjektet er et aksjonsforskningsprosjekt som er finansiert av Det Helsevitenskapelige Fakultet ved Universitetet i Tromsø. Bente Norbye, førstelektor ved sykepleierutdanningen ved Institutt for helse – og omsorgsfag, er prosjektleder. En PhD – stipendiat vil være knyttet til prosjektet og stipendiaten vil delta i utviklingsprosessene.

Du forespørres om å delta i aksjonsforskningsprosjektet, fordi du veileder / lærer / student ved en enhet som har takket ja til å delta i prosjektet og fordi du inngår i målgruppen for deltakere i prosjektet.

Hva innebærer deltakelse i prosjektet?
For å forbedre utdanningspraksis brukes aksjonsforskning som metode. Aksjonsforsking handler her om hvordan lærere og veiledere i praksis i felleskap kan samarbeide om å tilrettelegge og gjennomføre forbedringsarbeid knyttet til tverrfaglig samarbeidskompetanse for helsefaglige studenter. Ved å arbeide sammen kan lærere og veiledere i praksis utvikle ny kunnskap om hvordan samarbeidslæring kan skje. Alle parter har eierskap til kunnskapen som utvikles.

Aksjonsforskningen er syklisk der hver fase genererer kunnskap som føres tilbake til planleggingen av neste fase. I hver fase gjøres datainnsamling og analyse av prosessene som er satt i gang. Arbeidsformen er logg, seminar og workshop. Slik vil utdanningsinstitusjonen og praksisarenaen i samarbeid få kunnskap om hvordan vi kan legge til rette for og stimulere til tverrfaglig samarbeidslæring i helsetjenesten.

Fokus i datainnsamlingen vil være opplevelser, forståelser og erfaringer gjort i utviklingsprosessen, både hva som har positiv eller negativ betydning i forhold til forbedring av samarbeidslæring. Deltakerne vil skrive logg og delta i workshop og seminarer. Prosjektleder vil gjøre lyd - og eventuelt videoopptak av seminarer og workshops som en del av datainnsamlingen.

Tiden som medgår til deltakelse i prosjektet vil kunne være ulik for de ulike deltakerne. En avklaring av dette vil være en del av prosessen og noe av det deltakerne skal være med å bestemme.

Det presiseres at medlemmer i prosjektgruppen som representerer utdanningsprogrammet den enkelte student tilhører, ikke deltar i vurderingen av studentens prestasjoner i praksisperioden som helhet, eller deler informasjon fra ukene i samarbeidspraksis som kan ha betydning for vurderingen av studenten.

Vi minner på om at du som helsearbeider er underlagt taushetsplikt når det gjelder pasientopplysninger, og at i den grad du kommer inn på opplysninger om enkeltpasienter må disse avgis i anonymisert form.

Hva skjer med informasjonen om deg?
Prosjektet skal etter planen avsluttes 31.07. 2016. Etter prosjektslutt vil datamaterialet bli brukt i allmennrettet og vitenskapelig formidling knyttet til prosjektets tematikk "Tverrprofesjonell samarbeidslæring i helsefaglige profesjonsutdanninger" og aksjonsforskning som samarbeidsform. Prosjektleder vil ha oversikt og kontroll over materialet og være ansvarlig for at datamaterialet vil bli lagret forsvarlig. Prosjektleder og Phd-stipendiat vil ha tilgang til lyd – og bildefilene, det samme vil medforskerne ha etter avtale med prosjektleder. Datamaterialet som vil kunne deles etter forespørsel vil være transkripsjoner av lyd – og eventuelt bildefiler fra workshops, seminarer og gruppeintervjuer, dessuten skriftlige oppsummeringer som gjøres i forbindelse med de samme aktivitetene. Den enkelte sin logg er privat og deles dersom det er ønskelig av eier av loggen. PhD – stipendiatens datainnsamling deles normalt ikke før etter disputas. Stipendiaten avklarer med enkeltmedlemmene hvilke type data hun eventuelt kan samle utover ovenfor nevnte materiale. Ingen enkeltpersoner vil være gjenkjennbare i publikasjoner som gjøres med bakgrunn i datamaterialet i prosjektet. Datamaterialet vil bli oppbevart frem til 31.12. 2020 og vil innen utløp av denne dato bli anonymisert.

Frivilligdeltakelse
Det er frivillig å delta i prosjektet, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om deg bli anonymisert. Dersom studenter ikke vil delta i studien eller senere velger å trekke seg, vil dette ikke ha betydning for videre studieprogresjon, vurdering av studentens praksis eller eksamensresultater.

Dersom du ønsker å delta eller har spørsmål til studien, ta kontakt med prosjektleder Bente Norbye (771 71012).

Studien er meldt til Personvernombudet for forskning, Norsk samfunnsvitenskapelig datatjeneste AS.

Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er villig til å delta

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(Signert av prosjektdeltaker, dato)

Fra:	Norbye Bente
Til:	Gudmundsen Anita Carin; Obstfelder Aud
Emne:	Fwd: Prosjektnr: 34895. Tverrprofesjonell samarbeidslæring i helsefaglige profesjonsutdanninger
Dato:	tirsdag 10. september 2013 13:35:57

Godt jobba! Se nedenfor:)

mvh Bente

Sendt fra min iPad

Videresendt melding:

> **Fra:** Marte Byrkjeland <marte.byrkjeland@nsd.uib.no>
> **Dato:** 10. september 2013 10:04:09 CEST
> **Til:** <bente.norbye@uit.no>
> **Emne: Prosjektnr: 34895. Tverrprofesjonell samarbeidslæring i helsefaglige profesjonsutdanninger**
>
> Hei,
>
> Vi viser til revidert informasjonsskriv mottatt 06.09.2013. Personvernombudet finner skrivet tilfredsstillende utformet. Lykke til med prosjektet!
>
> --
> Vennlig hilsen / Best regards
>
> Marte Byrkjeland
> Rådgiver / Adviser
>
> Norsk samfunnsvitenskapelig datatjeneste AS
> (Norwegian Social Science Data Services)
>
> Personvernombud for forskning
> (Data Protection Official for Research)
>
> Harald Hårfagres gate 29, 5007 BERGEN
> Tlf. direkte: (+47) 55 58 33 48
> Tlf. sentral: (+47) 55 58 81 80
> Faks: (+47) 55 58 96 50
> Epost: marte.byrkjeland@nsd.uib.no
> www.nsd.uib.no/personvern

Hei!

Jeg heter Anita Carin Gudmundsen og er stipendiat ved Det helsevitenskapelige fakultet ved Universitetet i Tromsø. Jeg er utdannet sykepleier og sosiolog og har arbeidet ved Bachelorprogrammet i sykepleie ved Universitetet i Tromsø siden 2005. Per 1. januar i år tiltrådte jeg stillingen som stipendiat i prosjektet "Tverrprofesjonell samarbeidslæring i helsefaglige profesjonsutdanninger". Din avdeling deltar i dette prosjektet i perioden 17. – 28. februar. I den forbindelse vil du kunne møte på meg som forsker, da jeg vil kunne være tilstede i aktiviteter studentene gjennomfører knyttet til planlegging og vurdering av eget tverrprofesjonelt samarbeid. Jeg vil ikke delta i arbeid studentene gjennomfører i direkte kontakt med pasienter og pårørende.

Skulle du ha noen spørsmål knyttet til meg og min rolle er det bare å ta kontakt med meg når du ser meg, eller maile meg på anita.gudmundsen@uit.no

Vennlig hilsen Anita C. Gudmundsen, stipendiat

Taushetsplikt Skjema for søknad om dispensasjon fra taushetsplikt annen forskning i de regionale komiteer for medisinsk og helsefaglig forskningsetikk (REK)

Dokument-id: 518150 Dokument mottatt 23.09.2014

Tverrprofesjonell samarbeidslæring i helsefaglig praksis

1. Generelle opplysninger

a. Prosjektleder

Navn	Bente Norbye
Akademisk grad:	Førstelektor
Stilling:	Forskningsgruppeleder
Arbeidssted:	UiT Norges arktiske universitet
Arbeidsadresse:	Helsefak/ Institutt for helse og omsorgsfag
Postnummer:	9037
Sted:	Tromsø
Telefon:	77171012
Mobiltelefon:	95122383
E-postadresse:	bente.norbye@uit.no

b. Prosjekttittel

Norsk tittel	Tverrprofesjonell samarbeidslæring i helsefaglig praksis
Vitenskapelig tittel	

1.3 Forskningsansvarlig

Institusjon	Kontaktperson	Stilling	E-post adresse

1. UiT Norges arktiske universitet	Bente Norbye	Forskningsgruppeleder	bente.norbye@uit.no

d. Tidsramme for prosjektet

Prosjektstart dato	01.09.2013
Prosjektslutt dato	31.12.2016

2. Prosjektopplysninger

a. Oppsummering av forskningsprosjektet

Prosjektbeskrivelse

Tverrprofesjonell samarbeidslæring i helsefaglig praksis er et forskningsprosjekt i et formalisert samarbeid mellom fire profesjonsutdanninger og tre helsetjenester i midt-Troms. En PhD student skal sammen med sine veiledere gjennomføre intervjuer, observasjon og uformelle samtaler med studentene når de er i en tverrprofesjonell praksis. Vi søker kunnskap om hvordan studentene utøver tverrprofesjonelt samarbeid, hvordan de reflekterer omkring mulighetene for tverrprofesjonelt samarbeid og hvilke erfaringene de høster. Forskningsresultatene vil bidra med kunnskap om hvordan tverrprofesjonell kompetanseutvikling kan skje og vil kunne informere satsingen på tverrprofesjonelt samarbeid i helsetjenester og helseprofesjonsutdanning lokalt, nasjonal og internasjonalt.

b. Studiepopulasjon

Antall forskningsdeltakere

Prosjektet omfatter tjuefire studenter som deltar i studien, deres veiledere i praksis og lærere fra profesjonsutdanningene. Studentene er fordelt i seks grupper, to grupper ved hver helsetjeneste som deltar i prosjektet. Studentgruppene vil arbeide med 1 - 6 pasienter, alt etter pasientgrunnlaget og pasientgjennomstrømningen ved tjenesteenheten og hvor omfattende arbeidet med enkeltpasienter er.

Beskrivelse av forskningsdeltakere

Allmennbefolkning

Gi nærmere spesifikasjon og begrunn hvorfor disse personene skal inkluderes

Det er studenters tverrprofesjonelle samarbeid knyttet til behandling og pleie av pasienter som er i fokus for prosjektet. Opplysninger om pasienter reigistreres ikke. Prosjektet er forelagt og godkjent av NSD, prosjektnummer 34895, se vedlegg

c. Forskningsdata

Hvilke opplysninger skal inngå i prosjektet?

Det er opplysninger om studentenes samarbeidlæring som inngår i prosjektet. Hvordan studentene tenker om tverrprofesjonelt samarbeid, hva og hvordan de planlegger samarbeidet, hvordan de utfører samarbeidet og hvordan de reflekterer over hva de de har gjort.

Hvor hentes opplysningene fra?

Opplysningene hentes fra intervjuer, observasjoner og uformelle samtaler med studenene enkeltvis eller i gruppe, samt deres veiledere og lærerne. Observasjonene kan finne sted i sammenhenger der pasientopplysninger omtales.

I hvilken form skal personidentifiserbare opplysninger brukes i prosjektet?

Avidentifisert med koblingsnøkkel

Gi opplysninger om hvordan koblingsnøkkelen oppbevares og hvem som har tilgang til denne

Datamaskin beskyttet med brukernavn og passord i låsbart rom. Lagring på fellesområde på institusjon (bak brannmur). Minnebrikker med lyd og bildeinformasjon innlåst i skap i låsbart rom. Skriftlig informasjon om utvalget er skilt fra digitale filer.
Utskrifter av intervju og feltnotater oppbevares innlåst i skap og i låst rom.

d. Metode for analysering av data

Fortolkende (kvalitative) analysemetoder

3. Oppbevaring av data

a. Lagring av data i prosjektperioden

Kryss av for hvordan personidentifiserbare data oppbevares i prosjektperioden

Institusjonens server

Passordbeskyttet og tilgangsstyrt oppbevaring

b. Lagring av data etter prosjektslutt

Hvordan skal opplysningene lagres etter prosjektslutt?

Avidentifiseres

Redegjør nærmere for håndtering av data etter prosjektslutt

Etter prosjektslutt avidentifiseres data og sendes NSD for oppbevaring til 2020, se godkjenning fra NSD.

4. Søknad om dispensasjon fra taushetsplikt

a. Begrunnelse for ikke å innhente samtykke

Begrunn hvorfor det søkes om dispensasjon for å forske på taushetsbelagte opplysninger uten å innhente samtykke

PhD studenten vil observere helseprofesjonsstudentene når de samhandler seg imellom, med pasientene og med personalet. Ved å observere i disse møtene, vil det komme frem informasjon om tredjeperson (pasientene) som ikke har relevens for prosjeketet. Med bakgrunn av dette trenger vi dispensasjon fra taushetssplikten.

Det er viktig for forskningsresultatenes kvalitet at PhD studenten får kunnskap om klinisk tverrprofesjonell arbeid blant studentene, og ikke kun indirekte gjennom deres refleksjoner over arbeidet.

b. Tilgang til data

Navn på databehandlingsansvarlig

UiT, Norges Arktiske Universitet

Navn på øvrige personer det søkes om dispensasjon fra taushetsplikt for

Bente Norbye, Førstelektor, prosjektleder og biveileder for stipendiat Gudmundsen

Aud Obstfelder, Førsteamanuensis, hovedveileder for stipendiat Gudmundsen

Tre studentgrupper er fordelt på tre praksissteder parallelt i tid og praksisperiodens lengde er kun ti dager fordelt på to uker. Avstanden mellom ett av de tre praksisstedene og de to øvrige er sju mil. Viktige tverrprofesjonelle studentaktiviteter kan sammenfalle i tid ved de tre praksisstedene. I slike situasjoner ønskes muligheten for at Norbye og Obstfelder kan delta i datainnsamlingen ved praksissteder der Gudmundsen ikke kan delta pga parallel datainnsamling andre steder.

I Gudmundsen, Norbye og Obstfelders kompetansebasis inngår at alle tre er offentlig godkjente sykepleiere. Gudmundsen og Norbye har dessuten lang fartstid som lærerveiledere for bachelorstudenter i sykepleie.

c. Vurdering av mulig risiko og ulempe

Redegjør for mulig risiko og ulempe forskningen kan medføre for personene opplysningene gjelder

Pasientopplysninger vil bli tilgjengelig for PhD studenten når hun deltar i møter der slik hånteres, eller når hun følger studentene inn til pasient og eventuelt pårørende. Dette kan gi pasientene eller pårørende opplevelse av brudd på deres integritet.

PhD studentens deltakelse i møter mellom studenter og pasient og eventuelt pårørende kan medføre at det blir mange personer til stede og at det virker distraherende på behandlings-/pleiesituasjonen og pasientens / pårørendes mulighet til å fokusere på samhandlingen med tilstedeværende helsepersonell.

Pasienter som har en kognitiv svikt kan være ute av stand til å forstå hvorfor PhD studenten er til stede i situasjonen. Pasientene kan også kunne misforstå situasjonen og oppleve forventingsbrudd dersom PhD studenten ikke kan møte behandlings- og pleiebehov som pasientene uttrykker.

d. Tiltak for å redusere risiko og ulempe

Redegjør for tiltak for å redusere mulig risiko og ulempe for personene opplysningene gjelder

Tiltak for å redusere risiko og ulemper for pasienter og deres pårørende er å informere dem om at PhD studenten er tilstede i tjenesten. Dette kan gjøres med oppslag i enheten som klargjør at forskning pågår, hva som er fokus, og at pasienter og pårørende kan reservere seg mot at forsker får tilgang til pasientopplysninger.

Videre kan PhD studenten samarbeide med sykepleierne i tjenesten, slik at disse deltar i å målbære informasjon om forskningen og om reservasjonsretten /-prosedyren overfor enkeltpasienter og deres pårørende og motta reservasjoner.

PhD studenten skal også kontinuerlig avklare sin deltakelse i forkant av og underveis i pasient- og/ eller pårørendesituasjoner. Sykepleierne ved tjenesten gjør vurderinger av pasientes tilstand i forhold til forskerdeltakelse og hvordan PhD studenten nærvær påvirker pasienten.

I forhold til pasienter som ikke har reservert seg mot PhD studentens tilstedeværelse skal det fortløpende tas stilling til antallet personer som er tilstede ved gjennomføringen av behandlings- og pleieaktiviteter. PhD studenten må være sensitiv for ulempen egen tilstedeværelse kan medføre for pasienten både i forhold til tilstand og behandlingsfasilitetenes begrensninger ifht til planlagte aktivitet.

PhD studenten og veilederne har sykepleiefaglige kompetanse og erfaring fra yrket vil kunne være en styrke i samarbeidet med studenter og sykepleiere ved at forskerne har en selvstendig vurderingsevne ifht sensitive situasjoner i arbeidet med pasienter og ivaretakelse av pasienters integitet.

e. Etisk vurdering

Gi en samlet vurdering av de forskningsetiske utfordringene i prosjektet, især nytte/risiko aspektet for personene opplysningene gjelder. Relater vurderingen til de tiltak som gjøres for å begrense mulig risiko og ulempe. Vurderingen skal gi en begrunnet konklusjon for hvorfor du mener det er forsvarlig å gjennomføre prosjektet uten å innhente samtykke.

I forhold til indirekte tilgang til pasientopplysninger gjennom tilstedeværelse i helsetjenesten vil det være vanskelig å kunne informere alle pasienter og pårørende direkte om tilstedeværelsen av forskere. Det er samtidig slik at den enkelte pasient og/eller dennes pårørende best vurderer om tilstedeværelse av forskerne oppleves som et brudd på den enkeltes intergritet.

Vi vurderer det slik at tiltakene om informasjon om forskningen og reservasjonsrett- / prosedyrerisikoen gjennom oppslag ved enheten og gjennom samarbeid med sykepleierne ved tjenesten gir pasient og pårørende muligheten til å ivareta pasientens intergitet og derfor er gode tiltak.

Et åpent samarbeid med helsetjenestens personale, pasentene, deres pårørende og studentene vil sikre en konstant vurdering om det er utilbørlig at forskerene er til stede der pasienter behandles og pleies.

5. Vedlegg

#	Type	Filnavn	Lagt inn dato
1.	Øvrige vedlegg	Interprof project description.docx	18.09.14
2.	Prosjektprotokoll	Prosjektbeskrivelse til PhD, delprosjekt.docx	18.09.14
3.	Øvrige vedlegg	img-918144129-0001.pdf	18.09.14
4.	Øvrige vedlegg	NSD meldeskjema tverrprof samarbeidslæring[1].pdf	18.09.14
5.	CV for prosjektleder	CV_Norbye B august 2014.docx	18.09.14

6. Ansvarserklæring

Jeg erklærer at prosjektet vil bli gjennomført
i henhold til gjeldende lover, forskrifter og retningslinjer
i samsvar med opplysninger gitt i denne søknaden
i samsvar med eventuelle vilkår for godkjenning gitt av REK

REK
REGIONALE KOMITEER FOR MEDISINSK OG HELSEFAGLIG FORSKNINGSETIKK

Region:	Saksbehandler:	Telefon:	Vår dato:	Vår referanse:
REK nord			06.11.2014	2014/1659/REK nord
			Deres dato:	Deres referanse:
			23.09.2014	

Vår referanse må oppgis ved alle henvendelser

Bente Norbye
Helsefak/ Institutt for helse og omsorgsfag

2014/1659 Tverrprofesjonell samarbeidslæring i helsefaglig praksis

Forskningsansvarlig institusjon: UiT Norges arktiske universitet
Prosjektleder: Bente Norbye

Vi viser til søknad om dispensasjon fra taushetsplikt i ovennevnte prosjekt. Søknaden ble behandlet av Regional komité for medisinsk og helsefaglig forskningsetikk (REK nord) i møtet 23.10.2014. Vurderingen er gjort med hjemmel i helsepersonelloven § 29 første ledd og forvaltningsloven § 13 d første ledd.

Prosjektleders prosjektomtale
Tverrprofesjonell samarbeidslæring i helsefaglig praksis er et forskningsprosjekt i et formalisert samarbeid mellom fire profesjonsutdanninger og tre helsetjenester i midt- Troms. En PhD student skal sammen med sine veiledere gjennomføre intervjuer, observasjon og uformelle samtaler med studentene når de er i en tverrprofesjonell praksis. Vi søker kunnskap om hvordan studentene utøver tverrprofesjonelt samarbeid, hvordan de reflekterer omkring mulighetene for tverrprofesjonelt samarbeid og hvilke erfaringene de høster. Forskningsresultatene vil bidra med kunnskap om hvordan tverrprofesjonell kompetanseutvikling kan skje og vil kunne informere satsingen på tverrprofesjonelt samarbeid i helsetjenester og helseprofesjonsutdanning lokalt, nasjonal og internasjonalt.

Søknad om fritak fra taushetsplikt
Søknaden gjelder fritak fra taushetsplikt i et prosjekt som faller utenfor helseforskningslovens område. Med hjemmel i forskrift av 02.07.09 nr. 989, er REK delegert myndighet til å gi dispensasjon fra taushetsplikt etter helsepersonelloven § 29 første ledd og forvaltningsloven § 13 første ledd.

For hvilke data søkes det om fritak fra taushetsplikt
Det er opplysninger om studentenes samarbeidslæring som inngår i prosjektet. Hvordan studentene tenker om tverrprofesjonelt samarbeid, hva og hvordan de planlegger samarbeidet, hvordan de utfører samarbeidet og hvordan de reflekterer over hva de de har gjort.

Opplysningene hentes fra intervjuer, observasjoner og uformelle samtaler med studentene enkeltvis eller i gruppe, samt deres veiledere og lærerne. Observasjonene kan finne sted i sammenhenger der pasientopplysninger omtales.

Begrunnelse for søknaden
PhD studenten og veileder vil observere helseprofesjonsstudentene når de samhandler seg imellom, med pasientene og med personalet. Ved å observere i disse møtene, vil det komme frem informasjon om tredjeperson (pasientene) som ikke har relevans for prosjektet. Med bakgrunn i dette søkes det om dispensasjon fra taushetsplikten.

Det er viktig for forskningsresultatenes kvalitet at PhD studenten får kunnskap om klinisk tverrprofesjonell arbeid blant studentene, og ikke kun indirekte gjennom deres refleksjoner over arbeidet.

Vurdering
Komiteen er positiv til søknaden, men vil stille som krav at pasienter og pårørende i enhetene informeres om prosjektet og stipendiatens tilstedeværelse. Dette kan gjøres ved oppslag eller på annen måte som er tilpasset prosjektet. Prosjektleder bes om å redegjøre for hvordan kravet om informasjon vil bli oppfylt.

I prosjektbeskrivelsen er det opplyst at *"Jeg gjennomførte mitt første feltarbeid i første praksisperiode i februar i år…"* (s.4). Prosjektleder bes om å utdype dette.

Vedtak
Prosjektleders tilbakemelding imøteses. Den videre behandling av prosjektsøknaden vil bli foretatt av komiteens leder/nestleder og sekretær, med mindre det reises spørsmål som må behandles av samlet komité.

Vennligst benytt skjema for tilbakemelding som sendes inn via saksportalen til REK http://helseforskning.etikkom.no. Tilbakemeldingen må være oss i hende innen seks måneder.

Med vennlig hilsen

May Britt Rossvoll
sekretariatsleder

Informasjon om forskning ved avdelingen

Jeg heter Anita Carin Gudmundsen og er stipendiat ved Det helsevitenskapelige fakultet ved Universitetet i Tromsø. Jeg er utdannet sykepleier og sosiolog og har arbeidet ved Bachelorprogrammet i sykepleie ved Universitetet i Tromsø siden 2005. Fra og med 1. januar 2014 har jeg vært ansatt som stipendiat ved samme universitet.

Avdelingen du er pasient eller pårørende ved deltar i et aksjonsforskningsprosjekt ved navnet "Tverrprofesjonell samarbeidslæring i helsefaglige profesjonsutdanninger". Jeg vil i den forbindelse oppholde meg som forsker ved avdelingen i en to ukers periode sammen med studenter fra ergoterapeut-, fysioterapeut-, medisiner- og sykepleierutdanningen. Ukene forskningen pågår er uke 8 og 9 (16. februar – 27. februar 2015).

Forskningen har til hensikt å gi kunnskap om hvordan helseprofesjonsstudenter lærer å samarbeide tverrprofesjonelt. Det er derfor studentenes samarbeid som er i fokus for forskningen, og **ikke** pasienter, pårørende eller personalet.

Fagleder ved avdelingen har i forkant av forskningsperiodens oppstart avklart med de pasienter og pårørende som studentene arbeider med, at de har samtykket til mitt nærvær i pleie- og behandlingssituasjoner. For forskningen vil det være av interesse at forsker følger studentene i aktiviteter knyttet til planlegging, gjennomføring og vurdering av eget tverrprofesjonelle samarbeid. Forskningen vil derfor ha nytte av at forsker får følge studentene inn i deres arbeid med pasienter, for å se hvordan de løser sitt samarbeide i pasientpleie og behandling. Dersom du er pasient eller pårørende som har samtykket til at forsker deltar i pleie og behandlingssituasjoner vil jeg informere om at du på et hvert tidspunkt har rett til å trekke deg og reservere deg mot at jeg som forsker følger studentene i den videre pleien og behandlingen. Ta kontakt med fagleder ved avdelingen dersom du ønsker å trekke tilbake samtykket.

Skulle du ha noen spørsmål knyttet til prosjektet er det bare å ta kontakt med meg når du ser meg i avdelingen, eller maile meg på anita.gudmundsen@uit.no
For andre spørsmål knyttet til avdelingens deltakelse i prosjektet eller tilbaketrekking av samtykke kan du kontakte fagleder ved avdelingen.

Vennlig hilsen Anita C. Gudmundsen, stipendiat

REK
REGIONALE KOMITEER FOR MEDISINSK OG HELSEFAGLIG FORSKNINGSETIKK

Region:	Saksbehandler:	Telefon:	Vår dato:	Vår referanse:
REK nord	Monika Rydland Gaare	77620756	17.11.2014	2014/1659/REK nord
			Deres dato:	Deres referanse:
			14.11.2014	

Vår referanse må oppgis ved alle henvendelser

Bente Norbye
Helsefak/ Institutt for helse og omsorgsfag

2014/1659 Tverrprofesjonell samarbeidslæring i helsefaglig praksis

Forskningsansvarlig institusjon: UiT Norges arktiske universitet
Prosjektleder: Bente Norbye

Prosjektleders prosjektomtale
Tverrprofesjonell samarbeidslæring i helsefaglig praksis er et forskningsprosjekt i et formalisert samarbeid mellom fire profesjonsutdanninger og tre helsetjenester i midt- Troms. En PhD student skal sammen med sine veiledere gjennomføre intervjuer, observasjon og uformelle samtaler med studentene når de er i en tverrprofesjonell praksis. Vi søker kunnskap om hvordan studentene utøver tverrprofesjonelt samarbeid, hvordan de reflekterer omkring mulighetene for tverrprofesjonelt samarbeid og hvilke erfaringene de høster. Forskningsresultatene vil bidra med kunnskap om hvordan tverrprofesjonell kompetanseutvikling kan skje og vil kunne informere satsingen på tverrprofesjonelt samarbeid i helsetjenester og helseprofesjonsutdanning lokalt, nasjonal og internasjonalt.

Søknad om dispensasjon fra taushetsplikt ble behandlet av Regional komité for medisinsk og helsefaglig forskningsetikk (REK nord) i møte den 23.10 2014. Komiteen hadde merknader til søknaden og fattet utsettelsesvedtak som sa at den videre behandling av søknaden vil bli foretatt på fullmakt av komiteens leder/nestleder og sekretær med mindre det reises spørsmål som må behandles av samlet komité. Vurderingen er gjort med hjemmel i helseforskningsloven (hfl.) § 10, jf. forskningsetikklovens § 4.

Prosjektleder har gitt tilfredsstillende tilbakemelding på komiteens merknader og lagt ved informasjonsskriv den 14.11.2014.

Etter fullmakt er det fattet slikt

vedtak
Med hjemmel i helseforskningsloven § 10 og forskningsetikkloven § 4 godkjennes prosjektet.

Sluttmelding og søknad om prosjektendring
Prosjektleder skal sende sluttmelding til REK nord på eget skjema senest (et halvt år etter prosjektslutt), jf. hfl. § 12. Prosjektleder skal sende søknad om prosjektendring til REK nord dersom det skal gjøres vesentlige endringer i forhold til de opplysninger som er gitt i søknaden, jf. hfl. § 11.

Klageadgang
Prosjektleder kan klage på komiteens vedtak, jf. forvaltningslovens § 28 flg. Klagen sendes til REK nord. Klagefristen er tre uker fra mottak av dette brevet. Dersom vedtaket opprettholdes av REK nord, sendes

klagen videre til Den nasjonale forskningsetiske komité for medisin og helsefag for endelig vurdering.

Med vennlig hilsen

May Britt Rossvoll
sekretariatsleder

Monika Rydland Gaare
seniorkonsulent

Kopi til: postmottak@uit.no

Students´ sayings and doings in their interprofessional meetings and main topics of negotiation

Categories of doings in the team meetings	**Topics of negotiation**
Being present	The presence in the meetings
Starting when everyone is present	The membership in the meetings
Speaking in a friendly voice	The atmosphere in the meetings
Being calm	
Sharing one's opinions about the terms of the meeting	The method of the meetings
Listening to other students´ opinions about the terms of the meeting	
Participating actively in discussions and decisions about the terms of the meeting	
Presenting one's opinion about subjects discussed in the form of suggestions	The presentation of opinions in meetings
Hesitating when the discussion about a subject tails off	The change of subject during a meeting
Stopping hesitations by proposing a change of subject	
Participating actively in discussions and decisions about new subjects to discuss	
Hesitating when the discussion about any subject tails off	The need for continuing the meeting
Stopping hesitations by proposing further subjects for discussion or the need for continuing the meeting	
Participating actively in discussions and decisions about further subjects for discussion or the need for continuing the meeting	
Sharing one's opinions about further meetings, meeting agendas and adjustments	The need for further meetings
Listening to other students´ opinions about further meetings, meeting agendas and adjustments	
Participating in discussions and decisions about further meetings, meeting agendas and adjustments	
Recording of patient data changes hands, or one student scrolls the electronic record on behalf of all students	The adaptation to others' information needs
Participating actively in taking turns to speak	The adaptation to professional sharing
Sharing one's observations and assessments of patients´ condition and treatment	The observations and assessments of patients´ condition and treatment
Listening while other students share their observations and assessments of patients´ condition and treatment	
Asking questions of the student who is sharing observations and assessments of patients´ condition and treatment, or asking for clarification	
Answering questions and giving clarifications for other students	
Asking questions of others or supplementing their observations and assessments	
Discussing and making decisions on patients´ condition and treatment	

Sharing assessments about further actions related to patients´ condition and treatment	The further actions of each student related to patients´ condition and treatment
Listening while others share their assessments about further actions related to patients´ condition and treatment	
Sharing one's own need for information and examination of patients´ condition and treatment	
Listening while others share their need for information and examination of patients´ condition and treatment	
Participating in discussions and decisions about further actions related to patients´ condition and treatment	
Participating actively in discussions and decisions about each profession´s need for information and examination of patients´ condition and treatment	
Checking one's notes	The relevance of one's own notes
Looking up information in books and on the Internet for oneself or other students	The engagement in searching for information in the meetings
Sharing information looked up with the other students	
Writing notes	The interest in information shared in the meetings
Writing a log/work list	The interest in joint planning of activities. The engagement in joint plans
Checking the work list	
Exploring differences in professional focus and knowledge that emerge in assessments and treatment of patients	The differences in professional focus and knowledge
Sharing ideas about new joint activities	The expansion of joint activities
Listening to each other´s ideas about new joint activities	
Participating actively in discussions and decisions about new joint activities	
Using the word "we" when talking about the information and activities in the group	

Questions that guided the data analysis in the three sub-studies of the dissertation

Sub-study	Questions in the Practical Iterative Framework for Qualitative Data Analysis (Srivastava & Hopwood, 2009)	Questions to the data based on the questions in the Practical Iterative Framework for Qualitative Data Analysis
Sub-study 1	1: What are the data telling us?	What are the students doing in the interprofessional meetings?
	2: What do we want to know?	What negotiations are occurring in the students´ doings?
	3: What is the dialectic relationship between what the data are telling us and what we want to know?	What is the dialectic relationship between what the data are telling us and what we want to know?
	1: What are the data telling us?	What mutual engagement evolves in the students´ negotiations in interprofessional meetings? and How do the students make mutual engagement possible in the meetings?
	2: What do we want to know?	What are the relations between the different types of mutual engagement evolving among the students in the interprofessional meetings?
	3: What is the dialectic relationship between what the data are telling us and what we want to know?	What is the dialectic relationship between what the data are telling us and what we want to know?
Sub-study 2	1: What are the data telling us?	What is the students´ goal for the interprofessional meetings?
	2: What do we want to know?	What is the focus in the interprofessional meetings?
	3: What is the dialectic relationship between what the data are telling us and what we want to know?	What is the dialectic relationship between what the data are telling us and what we want to know?
	1: What are the data telling us?	What do the students do to enable them to discuss the patients´ health situation and treatment in the interprofessional meetings?
	2: What do we want to know?	How do the discussions affect the students´ collaboration in patient care?
	3: What is the dialectic relationship between what the data are telling us and what we want to know?	What is the dialectic relationship between what the data are telling us and what we want to know?
Sub-study 3	1: What are the data telling us?	What are the students doing when they meet together to document information?
	2: What do we want to know?	What is the students´ approach to the act of documentation?
	3: What is the dialectic relationship between what the data are telling us and what we want to know?	What is the dialectic relationship between what the data are telling us and what we want to know?
	1: What are the data telling us?	What is the content of the multidimensional descriptions in the narrative note?
	2: What do we want to know?	What are the students doing to integrate one another´s observations and assessments into multidimensional descriptions?
	3: What is the dialectic relationship between what the data are telling us and what we want to know?	What is the dialectic relationship between what the data are telling us and what we want to know?

Categories and main themes of mutual engagement

Category of mutual engagement	Main themes of mutual engagement
Friendly atmosphere Taking turns Engaging in the meeting agenda and progression	Mutual engagement in facilitating interactions in patient care
Information sharing Information expansion Joint decision-making	Mutual engagement in patient care
Further meetings and activities Collaboration expansion "We" reference / joint notes, log and work list Representation in activities	Mutual engagement in further interaction in patient care